

Portfolio of Compositions

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Abstract

The ten original compositions presented in this portfolio are products of practice-led research into the use of language as musical material. The different methods of incorporating aspects of language into musical forms that my research has explored are outlined in the following commentary. My particular areas of interest can be categorized as follows:

- Communicating my interpretation of text meaning through the medium of composition, using musical devices to control 'oratory elocution' - which comprises speed of delivery, phrase-length, frequency of pauses, loudness and accentual character, posture, physical movement and facial expression etc.
- Exploiting the potential for musical settings to convey subtextual meanings, which are inferred but not explicitly stated in texts.
- Taking an integrated approach, in which musical and dramatic variables are compositionally controlled with equal priority and attention to detail.
- Shaping musical and extra-musical variables in order to create specific atmospheres, or to stimulate atmospheric changes, in performance environments.
- The deconstruction of language into its phonological components to create a palette of non-semantic, timbral materials - e.g. vowel sounds, whispers, prosodic gestures, hisses, plosive attacks etc. - for use in vocal compositions.
- Exploring the inherent 'musicality' of grammatical and semantic structures in text and language to identify principles that may be applied to instrumental composition.
- Analysing spectral characteristics of phonemes and creating orchestral timbres which emulate them, using both intuitive and spectrographic techniques.

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List of Submitted Pieces

- Dust in Space
- To the People of Conscience
- Some Ill Planet
- Estat ai en greu cossirier
- Laments of the Gorges
- Time Grows Upon the Rock
- Other world which no-one owns...
- Still Sky Bells
- Engar-dug the Fool
- Lēopsong

List of Submitted Materials

Scores

- Dust in Space
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Audio CD Contents

Audio CD 1

1. To the People of Conscience
2. Some Ill Planet
3. Estat ai en greu cossirier
4. Laments of the Gorges

Audio CD 2

1. Time Grows Upon the Rock
2. Other world which no-one owns...
3. Still Sky Bells
4. Engar-dug the Fool
5. Lēopsong

Video DVD

1. Dust in Space 1 - Prologue
2. Dust in Space 2 - The Testimony of LÚqiū Yīn
3. Dust in Space 3 - Water and Ice
4. Dust in Space 4 - A Turning Wheel
5. Dust in Space 5 - Dust in Space
6. Dust in Space 6 - Coda

Score Revisions

Three of the recordings included with this submission are early versions of pieces that have since been revised. Instances in which the scores differ from the recordings are as follows:

To the People of Conscience...

- Alto, b. 16, beats 1 - 2: spoken 'and' replaced with pitched note.
- Alto, b. 20, beat 4: as above.
- Alto bb. 33 - 39: text inserted to replace non-semantic phonemes ('send them to the world...' etc.).
- Sop, bb. 110 - 111: melisma replaced with single sustained note.
- Mezzo-sop, bb. 136 - 138: spoken 'of the protectors of peace' replaced with pitched notes.

Engar-Dug the Fool

- Sop, b. 17, beat 4 - b. 18, beat 1: material removed.
- Mezzo-sop, b. 19, beat 4 - b. 20, beat 1: material removed.
- Mezzo-sop, b.20, beat 2: new material inserted (same as alto, b. 20, beat 1).
- Alto, b. 27, beat 4: material removed.
- Bars 64 - 87: Substantial re-composition, removal of material and the addition of several bars of new material. The score and recording realign at 2'55" (b. 88).
- Bars 88 - 91: Re-distribution of material between parts and several octave transpositions.
- Mezzo-sop, b. 100, beats 3 - 4 and b. 101: material removed.
- Mezzo-sop, b. 102: transposed down an octave.
- Bar 117: Rhythm in all parts slightly altered to allow a breath.

viii

- Alto, bb. 129 - 148: On every instance of the phrase 'šir kug-zu', rhythm is amended from triplet crotchets to straight crotchets.

Some III Planet

- Sop. 2, bar 9: material removed
- Tenor 2, bb. 12 - 13: material removed
- Alto 1, bb. 13 - 14: upward portamento changed to a downward portamento and extended.
- Alto 1, bb. 15 - 16, beat 1: entry occurs 2 beats earlier than in recording. Word 'blow' substituted for the vowel [e].
- Sop. 1, b. 15, beat 2: new material added.
- Bass 1, b. 17: new material added.
- Sop. 1, b. 17, beat 3: new material added.
- Bar 23: 7 bars cut from original version of the piece (1'09" - 1'33" on the recording).

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Chronology of Compositions

- Dust in Space - Completed 2007
- To the People of Conscience - Completed 2008
- Some Ill Planet - Completed 2008. Revised September 2011.
- Estat ai en greu cossirier - Completed May 2009
- Laments of the Gorges - Completed January 2010
- Time Grows Upon the Rock - Completed February 2010
- Other world which no-one owns... - Completed April 2010. Revised February 2011.
- Still Sky Bells - Completed October 2010.
- Engar-dug - Completed October 2010. Revised September 2011.
- Lēopsong - Completed August 2011

Introduction

This commentary outlines my various approaches to text- and language-based composition within the context of an overarching aim to move beyond the traditional idea of text setting - in which music plays host to a text - towards an integrated approach, in which the text *is* the music and the music is the text. It illustrates the way in which my personal interpretation of semantic macrostructures permeate the composition of every piece. It also details the way in which linguistic microstructures (such as phonetics and prosody) and stylistic features of text (such as poetic scansion) generate my musical ideas, defining the character of vocal text settings, and stimulating the creation of idiosyncratic musical forms and materials in instrumental works.

The discussion is divided into two halves, the first of which deals with vocal music and the second of which deals with instrumental music. A discussion of my approach to engaging with texts on an interpretive level begins each half, since it is a process that is fundamental to every composition. Subsequent chapters build on this foundation, addressing compositional responses to increasingly atomized aspects of text and language structure, from sentences to phonemes. The final chapter concludes with an analysis of how I derive musical materials in certain instrumental pieces from language at a microscopic level - by emulating spectral characteristics of individual phonemes.

1. Compositional control of elocution

1.1. 'Time Grows Upon the Rock' - An illustration of the relationship between text interpretation and musical ideas in my work

My vocal trio, 'Time Grows Upon the Rock' is a setting of a single verse from Wallace Stevens' poem, 'The Man With The Blue Guitar' (IX, below). It is conceived as a musical text 'reading', in which aspects of oral delivery - fluctuations in tempo, pauses, accentual patterns, diction and inflection etc. - are sculpted by the musical score. This type of composition exemplifies the simplest and most unmediated relationship between music and language that occurs in my work. The following chapter details the way in which this and similar pieces are constructed according to my analysis of phonetic and prosodic elements of texts and personal interpretation of their meanings.

XI

Slowly the ivy on the stones
Becomes the stones. Women become

The cities, children become the fields
And men in waves become the sea.

It is the chord that falsifies.
The sea returns upon the men,

The fields entrap the children, brick
Is a weed and all the flies are caught,

Wingless and withered, but living alive.
The discord merely magnified.

Deeper within the belly's dark
Of time, time grows upon the rock.¹

The poem was inspired by Pablo Picasso's 1903 painting 'The Old Guitarist' and it represents a strong affinity with the expressionist movement in its vivid, dream-like imagery and

1 Stevens, *Collected Poetry*, 139 - 140

subjective abstraction. The blue guitar seems to be a metaphor for the imagination - it uniquely reshapes 'things', as the individual imagination uniquely reshapes reality:

They said, 'You have a blue guitar,
You do not play things as they are.'

The man replied, 'Things as they are
Are changed upon the blue guitar.'

(...) And things are as I think they are
And say they are on the blue guitar.²

Through numerous metaphorical illustrations, 'The Man With The Blue Guitar' challenges a fixed, objective notion of reality, reflecting on the futility of striving to understand 'things as they are'. Each metaphor elicits an emotional response through its sensory and cultural associations. Phonological characteristics of the poem also condition intuitive reactions; critics have referred to Stevens' poetry as musical, because of its use of onomatopoeia, rhyme, metre and non-semantic decorations to hint at implicit meanings that the words themselves do not directly express. I aimed to craft a musical setting that complimented these subtle allusions, elucidating them through atmospheric, emotive sounds without compromising their subtlety.

The poem contains many recurring metaphorical images which present subtle variations on a consistent theme. Archetypal binary oppositions - such as light and dark, hot and cold, fixed and fluid etc. - are analogized with an opposition between belief in objective reality and acceptance of reality as subjective and transient. The sun, warmth and community endeavour are associated with the former, while isolation, coldness, the moon, sleep and the colour blue are associated with the latter. Nuanced flexibility is key to Stevens' use of metaphor - descriptions of many of the images seem to contradict themselves over the course of the poem, unveiling new shades of understanding in between apparent ideological absolutes. This method of elucidating concepts through subtle evolution of imagery is something I have tried to emulate in the musical setting.

VII

It is the sun that shares our works.
The moon shares nothing. It is a sea.

When shall I come to say of the sun,
It is a sea; it shares nothing;

² Stevens, *Collected Poetry*, 135

The sun no longer shares our works
 And the earth is alive with creeping men,

Mechanical beetles never quite warm?
 And shall I then stand in the sun, as now

I stand in the moon, and call it good,
 the immaculate, the merciful good,

Detached from us, from things as they are?
 Not to be part of the sun? To stand

Remote and call it merciful?
 The strings are cold on the blue guitar.³

One of the poem's fundamental themes is the vulnerability of life to the ravages of time, which is encapsulated in verse XI by the slow process of petrification in which 'ivy on the stones / Becomes the stones.' In its opening bars, the musical setting pairs the word 'slowly' with sounds that express this vulnerability. The quiet, slow melodic lines that overlap in bars 1 - 10 leave individual voices uncomfortably exposed and seemingly fragile. Mellow, widely voiced harmonies transition through gentle progressions towards a resolute unison on the word 'stone', mirroring the process through which living ivy progresses towards death and petrification.

In other verses of the poem, stone is portrayed as hard, unyielding and un-motherly; it does not nurture, but oppresses. 'Rock' is an image associated with fortitude and protection in Christian ideology, and in contrast, Stevens ascribes it with 'valedictory echoings', pairing it with death and departure. Yet, the conclusiveness of death and solidity of petrification are among many notions contradicted over the course of the poem. A stone may seem fixed, but natural forces weather it away, so slowly that the changes are imperceptible. In the final verse stone is referred to not as a hard oppressor but as a comfort-giving bed, and is paired with the image of life-sustaining bread. It is considered malleable and susceptible to change after all.

Here is the bread of time to come,
 Here is its actual stone. The bread

Will be our bread, the stone will be

3 Ibid, 137 - 138.

Our bed and we shall sleep by night.⁴

In several verses, sleep represents respite from the daytime struggle to know what cannot be known. To sleep is to dream and therefore to unconditionally inhabit the realm of the imagination, or subjective reality. This state of perfect ignorance and infinite potential is, in my interpretation, encapsulated by the pre-natal connotations of the line 'Deeper within the belly's dark of time...'. The womb represents a space in which change is the only certainty and nothing else need be considered absolute. At the end of the verse it is stated that, in this space, 'time grows upon the rock.' Thus, time alters even the apparently intractable rock. Musical material used to represent the effects of time on 'the ivy on the stones' is also used to represent the effects of time on the stones themselves. The word 'grows' is harmonized in the same way as the word 'slowly' in a pseudo-recapitulation, which is strengthened by assonance between the two words.

Repetition of the word 'slowly' in my setting represents the process of becoming; it is interspersed between the first six lines, all of which concern transformation over time. Like the images of the steadfast 'Rock of Ages' and the life-affirming sun, the archetypal images in these lines are turned on their heads by Stevens' interpretation. Cities and fields are symbols of human achievement and the efficacy of collective endeavour, and the sea is a force of might and power far greater than any tributary body of water. To 'become' any of these things is to aspire to a reality greater than the individual self, but Stevens argues that there is no reality greater than the self and so its pursuit is a smothering delusion: 'it is the chord that falsifies.' Thus, the fields and the bricks that build the cities ultimately entrap and stifle. And the sea is a power that cannot be harnessed - a force of unpredictable change that serves no ideology. Perhaps it 'returns upon the men' in the form of rain or snow, in a demonstration of the inevitability of transformation and a contradiction of any fixed idea of what 'the sea' represents.

It is the sea that whitens the roof.

The sea drifts through the winter air.

It is the sea that the north wind makes.

The sea is in the falling snow.

(...)

The sea is a form of ridicule.

The iceberg settings satirize

The demon that cannot be himself,

⁴ Ibid, 152

That tours to shift the shifting scene.⁵

The musical setting of the second stanza is coloured by the archetypal associations of cities, fields and the sea. Cities unify; fields are vital but fragile (just as the ivy is fragile) and the sea is expansive and brilliant. When Stevens' language goes on to challenge these associations, directionless uncertainty results. In my composition, the lines 'The sea returns upon the men,' and 'The fields entrap the children...' are repeated as the voices disperse into meandering polyphony. The structural clarity of the poem - until then counteracted only by the interjection of the word slowly - is thus disrupted.

The phonetic character and evocative power of the words in lines 7 - 10 is striking. 'Brick' (which I interpret as the maker of cities) is a 'weed' and it is thus a noxious and unwelcome thing, stifling the vitality of the beings in its proximity. The enjambment that separates the word from the ensuing sentence heightens its plosive impact and creates a point of emphasis that seems structurally significant. Perhaps it is no coincidence that the word 'brick' ends a line in the middle of the poem, while 'stone' and 'rock' end the first and last lines respectively. I exaggerated this structural emphasis and phonetic coarseness by setting the word with the dissonant and intrusive sonority of a harmonically out-of-context semitone on a strong beat. Instead of resolving, the dissonance intensifies on the word 'weed' and is emphatically sustained by the soprano and alto.

In view of the lines that immediately precede it in the poem, I do not think that Stevens intended the phrase 'all the flies are caught' to be taken as a positive success. Instead, we are drawn to sympathize with the flies, as we do with the entrapped children. Insects are likened to mankind in verse VII, when Stevens refers to men as 'mechanical beetles.' There are also instances in which thoughts are embodied with insect-like characteristics: in verse XXVI, Stevens refers to a 'swarm of thoughts', and in verse III thoughts are described as winged creatures:

Ah, but to play man number one,
To drive the dagger in his heart,

To lay his brain upon the board
And pick the acrid colors out,

To nail his thought across the door,
Its wings spread wide to rain and snow.⁶

The image of flies in verse XI recalls the grisly unpleasantness of verse III and in both

5 Ibid, 147 - 148

6 Ibid, 135 - 136

instances, it is emphasized phonetically: in verse III by the frequency of the phoneme [k] in the line 'pick the acrid colours out'; and in verse XI by the alliteration between 'weed', 'wingless' and 'withered'. There is an uncomfortable tension between the likening of mankind (and his thoughts) to flies and the disgusting image of flies withering and dismembered. It is deeply disturbing to look at something trapped, writhing, powerless, repugnant and pathetic and yet be reminded of oneself. By picking apart and repeating phonemes from the word 'flies' (and their unvoiced equivalents) I tried to onomatopoeically exaggerate the nasty imagery the words evoke. The dissonant cluster of pitches in bar 35 disintegrates into overlapping and untidy melodic fragments which, for a fleeting moment, seem to buzz like flies.

There is continuing tension and recurring contradictions between disturbance and comfort in the poem - comforting images are disrupted, creating disturbing scenarios, while discomforting images are revealed to possess comforting elements. Moments of evocative disturbance in the poem, such as verse XI, are translated into peaks of musical intensity which gradually subside and are submerged by the repeating material that represents time and the inevitability of change. The character of this material (most prominent at the very beginning and end of the piece) is fragile and sorrowfully calm, yet somehow comforting.

1.2. Music as a rhetorical device - the control of elocution to convince in 'To the People of Conscience'

'To the People Of Conscience', like 'Time Grows Upon the Rock' is a composed poetry 'reading' in that decisions made during the composition of the piece were governed by text interpretation, while formal musical considerations played a subsidiary role. In this piece the role of the performer is expanded to encompass not only the emotionally engaging articulation of abstract ideas but also the rhetorical affirmation of principles; its purpose is to convince as well as to affect. The composition evokes a world of intense anguish in order to provoke a sympathetic response.

In summer 2007 the University of Iowa Press published a poetry collection which had been compiled by volunteer lawyers representing detainees held in the U.S. detention centre at Guantánamo Bay, Cuba. One of the poems - 'Death Poem' by Jumah al Dossari - particularly struck me because it seemed so honest and so devoid of poetic affectation. Most of the poems in the collection are affirmations of poets' spiritual strength in the face of their allegedly wrongful imprisonment. Many have an exalted, heroic quality that points to the crucial role that religious faith plays in sustaining detainees' mental health in traumatic conditions. In contrast, Jumah al Dossari's poem represents the bitter, anguished cry of a broken man - it is full of anger and indignation, and is comparatively unconcerned with poetic style. It takes the form of a blame-filled suicide note, which was probably its intended purpose: Dossari tried to kill himself twelve times while in U.S.

custody. It was this poem, more than any other in the collection, that truly aroused my sympathy and stoked my outrage. Living in an increasingly secular UK society, in a climate of suspicion towards extreme religious fervour, I find myself strongly affected by the human frailty that is evident in despair, while martyr-like courage is too alien to my way of thinking to awaken empathy or incite me to action; I believe the same could be said for a large proportion of the UK population at this time.⁷

'Death Poem' - Jumah al Dossari

Take my blood.

Take my death shroud and

The remnants of my body.

Take photographs of my corpse at the grave, lonely.

Send them to the world,

To the judges and

To the people of conscience,

Send them to the principled men and the fair-minded.

And let them bear the guilty burden before the world,

Of this innocent soul.

Let them bear the burden before their children and before history,

Of this wasted, sinless soul,

Of this soul which has suffered at the hands of the "protectors of peace."⁸

I hoped that dissemination of this poem in the UK would provoke outrage against human rights abuses committed at the Guantánamo Bay facility, and chose to participate by setting it to music. I composed the piece for the vocal trio 'Juice', who premiered it in 2008. The process of setting the poem was dominated by my commitment to preserving the integrity of the text, retaining its directness and trying not to allow melodrama or affectation to trivialise its serious subject. I hoped that performances would challenge compassion-fatigue by creating extremely tense atmospheres, in which people would be encouraged to take responsibility for the injustices of their society - to 'bear the burden before their children and before history'.

Because clarity was paramount, virtually all of the rhythmic material in the setting was

⁷ In fact, a google search (undertaken 25/08/11) reveals that al Dossari's poem is the most frequently reproduced and cited poem in the collection. Perhaps this is because the publishers deem it the most likely to appeal to the sympathies of western readers?

⁸ Falkoff, *Poems from Guantánamo*, 32

derived from natural speech rhythms. I felt that the appearance of counting or metric concentration would interfere with the intensity of the reading and interrupt its natural flow. However, frequent changes of tempo and the performance direction 'freely' were required to prevent rhythmic simplicity from rendering the music overly metric and regular. The speech rhythms used were based on my own imagined reading of the poem, with carefully contrived points of emphasis, surges in urgency, moments of restraint and tense pauses etc. Repetitions of lines, words and phrases were often subtly varied, in ways I imagined they might be if a spoken rendition poem included repetitions - altering emphases, heightening sentiments already introduced and imbuing phrases with additional layers of semantic potential.

The form of the piece is based on an aggregate expansion of pitch range, and intensification of dynamic contrasts. Beginning in a distinctively low register, which imitates a grainy, disgust-filled tone of voice, the piece progresses towards a loud, shrill climax in bars 119 - 133. Dramatically, there is a sense of transition from controlled but seething contempt, to piercing, despair-ridden condemnation. Jarring and uncomfortable sonorities characterize the harmony, with phrases frequently cadencing on to minor seconds, tritones and major sevenths; dissonances are often emphasized by resolutions from tense polyphony to emphatic homophony. Amidst the pervasive chromaticism, unisons, modal and consonant sonorities provide points of arresting contrast. The most striking moments are the unisons in bars 59 - 64 and bars 75 - 77, which set the phrase 'and let them bear the guilty burden...'. The directness of these sudden unisons imbues the words with the character of a disconcertingly intimate reproach: performer and audience are momentarily drawn closer together and reminded that the poet holds them directly responsible for his suffering.

2. Interplay Between Text Selections

2.1 Dramatic considerations in the design of text-based structures

In 'To the People of Conscience', the words of 'Death Poem' are unveiled slowly, line by line, through a process of carefully controlled repetition and augmentation. I wanted to create a substantial piece from the short poem while retaining a strong sense of its form, and preserving the order in which comments or concepts were introduced. There are five sections (labelled A - E in Table 1, below), each of which begins with the first three lines, not always in same order, and often repeated several times. Thus, the most frequently repeated lines, 'Take my blood' and 'Take my death shroud...', function as a kind of refrain, marking sectional divisions. New lines are added to each section so that the poem unfolds in a fragmentary manner, with a complete reading concluding the piece (section E). Each time new lines are added they follow the preceding line, but in subsequent statements the order is changed and lines are sometimes omitted. For example, the first time line six is heard (section A) it follows line five, but in section B it follows line seven and in section C it is omitted entirely. Harmonic inertia characterises the first statement of each line or phrase, while subsequent repetitions tend to be accompanied by faster chord progressions. The poem's formal integrity is reinforced because its sections are in the correct order the first and last times they are heard, with structural and harmonic deviation occurring in the interim. Each line, or group of lines is set with familiar but developed material whenever it occurs. Melodies tend to follow the same contour and harmonies (though usually transposed) are the same or similar.

Table 1: Text-based structure of 'To the People of Conscience'

- A) 1,1,1,2,3,2,3,4,5,5,6,7,5,7.
- B) 1,2,3,1,4,5,7,6,8,9.
- C) 2,1,3,7,5,9,10,11,12.
- D) 1,2,2,3.
- E) 1,2,3,4,5,6,7,8,9,10,11,12,12,13.

The gradual expansion of range and dynamic contrast in the piece is made especially explicit by the frequent repetition of lines one to three, which are paired with distinctive melodic motives. Delivery of these lines intensifies with each repetition through transposition into a progressively higher tessitura; the impact of this is heightened by the familiarity of the material.

Fig. 1: Rising melodic motives in 'To the People of Conscience'

Line 1: 'Take my blood.'

b. 3



b. 44



b. 50



Line 3: '...remnants of my body'

b. 17



b. 22



b. 49



b. 70



b. 102



Lines 9/10: '(and) let them bear...'

b. 61



b. 75



b. 80



b. 122



My choral piece 'Some Ill Planet' is structured in a similar way to 'To the People of Conscience', with the text unfolding through a series of repetitions. It is a setting of the first half of the 'storm soliloquy' from Shakespeare's 'King Lear' (below), in combination with additional text from other parts of the same play and a single line from his erotic narrative poem, 'The Rape of Lucrece'.

Blow, wind and crack your cheeks! Rage, blow,
 You cataracts and hurricanoes, spout
 Till you have drenched the steeples, drowned the
 cocks!
 You sulphurous and thought-executing fires,
 Vaunt-couriers to oak-cleaving thunderbolts,
 Singe my white head; and thou all-shaking thunder,
 Smite flat the thick rotundity of the world,
 Crack nature's mould, all germens spill at once
 That make ingrateful man.⁹

I interpreted the storm scene as an exorcism of Lear's demonic tyranny, brought on by acknowledgment of his wrongdoings and resulting in his descent into madness. The destructive chaos of his mental anguish is anthropomorphically paralleled by the inclement weather that sets the scene. I viewed my musical setting as a vehicle for conveying this interpretation, in which musical and theatrical or dramatic considerations were inextricably bound together. Sung and spoken settings reflect the rhythm and inflection of the words as spoken by my imagined Lear. The overall form of the piece is an arc of growing and diminishing intensity, that parallels the life-cycle of a storm by transitioning from paranoid muttering to frenzied, hysterical cries, and ending with comparatively sedate but disturbed babbling.

I cut several words and phrases from the soliloquy because I felt their loquaciousness would disrupt musical flow, lessen rhythmic clarity and make the text-setting seem clumsy. These cuts included part of the fourth and the whole of the fifth line, as well as 'Vaunt-couriers to oak-cleaving thunderbolts' and 'thick rotundity of the' from line seven. For similar reasons I replaced Lear's 'and thought executing fires' (ix. 4) with the Duke of Kent's phrase 'sheets of fire' (ix. 46). I also inserted some additional text into the soliloquy, including a single line from the second half of the soliloquy: 'Rumble thy bellyful; spit, fire; spout, rain.' (ix. 14). This extra phrase occurs after line four and again, in part, after line nine. Its evocative onomatopoeia, alliteration and consonance were musically enticing, and its inclusion provided an intermediate level of intensity between the phrase 'drowned the cocks', which is rather sedate, and the phrase 'sulphurous sheets of fire'

9 *King Lear*. ix. 1 - 9

which is extremely dramatic. Furthermore, the interpolated text served to quell the intensity of the line 'crack nature's mould' so that the piece could end with an atmosphere reminiscent of a dying and increasingly distant storm. I cut the second half of line eight for practical as well as aesthetic reasons. The word 'germens', which means 'seeds'¹⁰ is not commonly used today and the line is likely to be heard as 'all *Germans* spill at once'. The amended storm soliloquy that forms the core of 'Some Ill Planet' is shown below (Table 2, 1 - 9).

The piece also includes a song sung by King Lear's Fool during the storm scene (Table 2, I - IV), which I added because I found the juxtaposition between the farcical ditty and Lear's tormented soliloquy extremely affecting. Throughout the scene, the melodrama of Lear's descent into despair and madness is tempered by his touching interactions with the Fool, whose good sense, despite his 'professional' madness, contrasts strikingly with the total loss of wits that occurs despite Lear's princely authority. He is a consistent voice of reason and solemnly predicts the grave consequences of Lear's decisions. In scene four, the Fool uses loss of light as a foreboding metaphor to forecast the turmoil that will follow Lear's decision to place himself at the mercy of his dishonest daughters: 'So out went the candle and we were left darkling'.¹¹ This line is also included in the composite text for 'Some Ill Planet' (Table 2, ii).

Two further text interpolations were made, forming the rhyming couplet "Tis a wild, wild night/Fair torch, burn out thy light' (Table 2, i and iii). The first line is taken from the end of scene seven; it is the Duke of Cornwall's ominous instruction to the Duke of Gloucester to shut Lear out in the storm: 'Shut up your doors my lord. 'Tis a wild night.'¹² The second line is spoken by another villain, Tarquin in *The Rape of Lucrece*, and is similarly ripe with implicit promise of acts of cruelty yet to occur:

Fair torch, burn out thy light, and lend it not
To darken her whose light excelleth thine;
And die, unhallowed thoughts, before you blot
With your uncleanness that which is divine.¹³

The imagery of the phrase 'Fair torch, burn out thy light...' is compatible with the text in the storm soliloquy. However, the main reason for its inclusion is thematic: both 'The Rape of Lucrece' and 'King Lear' examine consequences of tyrannical acts committed by supposedly noble people.

10 This is the OED's first use of the Latin-derived word, which antedates 'germ.'" (Wells, 2000: 181).

11 *King Lear*. iv. 209

12 *King Lear*. vii. 465

13 *The Rape of Lucrece*. 190 - 193.

Table 2: Composite text used in 'Some Ill Planet'¹⁴

- 1a. Blow, wind and crack your cheeks! [1b.] Rage, blow,
- 2a. You cataracts and hurricanoes, [2b.] spout
- 3a. Till you have drenched the steeples, [3b.] drowned the cocks!
- 4a. Rumble thy bellyful; [4b.] spit, fire; spout, rain.
5. You sulphurous sheets of fire,
- 6a. Singe my white head; [6b.] and thou all-shaking thunder,
7. Smite flat the world,
8. Crack nature's mould,
9. Rumble thy bellyful.

- I. He that has a little (...) wit,
- II. With heigh-ho, the wind and the rain,
- III. Must make content (...) his fortunes fit,
- IV. For the rain it raineth every day.

i. 'Tis a wild night.

ii. So out went the candle [iib] and we were left darkling

iii. Fair torch, burn out thy light

The musical structure built from the composite text above comprises six sections (A - F in Table 3, below), five of which are constructed on the repetition of lines from the amended storm soliloquy. Like 'Death Poem' in 'To the People of Conscience', the soliloquy in 'Some Ill Planet' unfolds gradually, through a series of periodically incremented repetitions. The first four lines of the soliloquy are heard in sections A - C, while sections D and F comprise two complete settings of the whole speech. These two complete renditions enclose section E - a homophonic, tutti setting of the Fool's song. The first, second and final sections of the piece (A, B and F) set only the storm soliloquy, while the inner sections (C - D) combine it with the interpolations described above.

¹⁴ Lines numbered in order to illustrate musical structure (See Table 3).

Table 3: Text-based structure of 'Some Ill Planet'¹⁵

A)

1a	1a	1a	1b	2a	1a	1b	2a	2b	3a	4a	4b
----	----	----	----	----	----	----	----	----	----	----	----

B)

1a	1b	2a	2b	3a	3b	4a	4b
----	----	----	----	----	----	----	----

C)

1a	1b	2a	2b	3a	3b	→	5	6a	4a	4b
i	ii	i	→	ii	iib	→	iii	→	-	

D)

1a	-	1b	2a	2b	3a	3b	5	6b	6a	7	8	9
I	II	III	IV	-	II	→						

E)

I	II	III	IV
---	----	-----	----

F)

1a	1a	1b	2a	2b	3a	3b	4a	5	6a	6b	7	8	9
----	----	----	----	----	----	----	----	---	----	----	---	---	---

Two years after completing 'Some Ill Planet' and 'To the People of Conscience', I composed 'Engar-dug the Fool' for Juice - the same vocal trio for whom 'To the People...' was written. As in my earlier vocal works, the structure of this piece is based on the development of repeating language units taken from a text source. Almost nothing is known about the ancient Mesopotamian text I used. It is preserved on clay tablets (dated around the early second millennium BCE) in the Museum of the University of Pennsylvania. The most up-to-date transliteration and translation of the Sumerian cuneiform script in which it is written are available in the University of Oxford's Electronic Text Corpus of Sumerian Literature (ETCSL).¹⁶ It is a diatribe against a person called 'Engar-dug', who is described in various insulting terms, some of which are easily translated - e.g. 'fool', 'braggart' - and some of which are so specific to Sumerian culture that their meaning is

¹⁵ Lines from the storm soliloquy are listed in Arabic numerals; other miscellaneous lines from 'King Lear' and 'The Rape of Lucrece' are listed in Roman numerals and line numbers of the Fool's song are shown in capitalized Roman numerals. See Table 2 for corresponding texts.

¹⁶ ETCSL, 'Corpus', online (accessed 12 February 2012). See Appendix C.

unclear to modern readers - e.g. 'tail stuck in its mouth'. The vast number of unanswered questions about the context in which this diatribe was created were an enticing invitation to invent an imaginary dramatic scenario and base my composition on it. My dramatic concept was that the tablet was a transcript from - or script prepared for - a situation in which the insults would be spoken aloud, perhaps in a ritualised public confrontation with Engar-dug, or as a private incantation invoking supernatural forces to punish him. The performers would play the role of the text's author.

Unlike the poetic lines and phrases that formed principal motives in 'Some Ill Planet' and 'To the People...', the repeating text units in 'Engar-dug' are short and fragmentary, typically comprising words, compounds and individual syllables that are repeated with comparative frequency. This relentless repetition creates an intense, mantra-like ritual of verbal abuse. Since the text itself is fragmentary - there are many missing, damaged and untranslatable sections on the clay tablets - it felt appropriate to deconstruct it. Also, its nature seems more list-like than discourse-like, so the order of words and sentences is perhaps less important than the spirit in which they are delivered.

The first stage in designing the structure of 'Engar-dug' involved extracting selections from the full Sumerian text in the ETCSL (reproduced in Appendix C) to create my own composite text. I re-translated the complete and legible phrases on the tablets and removed politically incorrect insulting terms and vocally awkward words and compounds.¹⁷ The ETCSL text was thus filtered to the following:

Table 4: Selected text from 'Diatribes against Engar-dug' with line-by-line translation

1. Engar-dug, lu lil-la lu pe-e-la ni-su-ub	Engar-dug, foolish man disgraced/dirty man coward
2. Engar-dug, ze-za nar-e-ne silim dug-dug ur is-ḥab teš nu-tuku	Engar-dug, croaker among the singers braggart rogue shameless
3. Engar-dug, gu-du keše eme kun ka-bi-še ka tar-re-a bal-bal	Engar-dug, knotted in its anus tail stuck in its mouth boastful and slippery in his advice and counsel

¹⁷ With reference to: Sjöberg, 'He is a Good See of a Dog and Engardu, the Fool'; Halloran, *Sumerian Lexicon*; and Edzard, *Sumerian Grammar*.

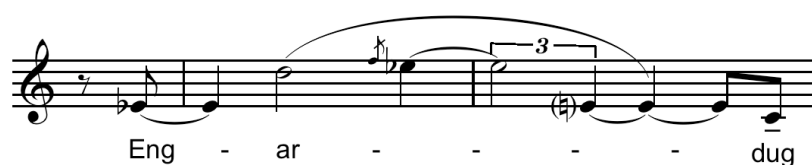
(Table 4 - cont.)

mu pi-il nar-e-ne	disgraced reputation among the singers
ur gu de ĝiš-za-mi-a nu-ĝal gu-ĝiškiri de-de	dog producing battle cries, not music, from the lyre

4. Engar-dug, šir kug-zu mu-til	Engar-dug, your holy song is finished
nam-maḥ-zu	your greatness
in-zu	your insults
lul-zu pa bi-i-e	your lies are made obvious

Paragraph one forms the main theme of the composition (bb. 40 - 63), the most frequently repeated and substantially developed element of which is the 'Engar-dug' motive (Fig. 2). This is preceded by an introductory section in which syllabic fragments of paragraph two form the basis of a lattice of overlapping percussive ostinati (bb. 1 - 28). In bars 29 - 39 the complete text of paragraph two is heard, at first in combination with the introductory material and then in isolation. The ostinati resurface in bars 64 - 84, as an accompaniment to the main theme. In bars 88 - 117, paragraph three is set to new melodic material, which is interspersed with familiar motives from paragraphs one and two. Fragments of paragraph two and the 'Engar-dug' motive are briefly recapitulated before the piece ends with increasingly fast repetitions of paragraph five, which form a climatic, war-dance-like coda (bb. 128 - 149).

Fig. 2: 'Engar-dug' motive



2.2. Allusion through the juxtaposition of different text selections

Interplay between different texts and parts of text can emphasize compatibility of meanings and imagery, or exaggerate contrasts. In 'Some Ill Planet', the juxtaposition between the Fool's song and Lear's soliloquy provides a structural focal point. The Fool's song is set to a folk-like melody, which was influenced by Northumbrian sea shanties. By drawing on the dark, gruff character of Northumbrian harmony singing, I hoped to retain the intense, stormy atmosphere already established in the piece and emphasize the Fool's earthy common sense. But, it was also important to highlight the contrast between Lear's anguished insanity and the Fool's practised clowning. Thus, the first time the Fool's song is heard, it is sung simultaneously with the storm soliloquy. The second *tutti* repetition of his song - the only section of the piece in which the storm soliloquy is absent - represents the Fool's final, impotent bid for influence, which is powerless to prevent Lear's catastrophic downfall.

Other significant juxtapositions result from the simultaneous setting of the storm soliloquy with additional lines from scenes four and seven, and text fragments from 'The Rape of Lucrece' (i - iii in Table 2, above). Because these lines introduce material not taken from Lear's soliloquy for the first time, they are musically prominent. Contrasting heavily with the speech rhythms of previous material, the words 'tis a wild night' and 'fair torch...' from 'The Rape of Lucrece' soar above Lear's speech in a shrill, melismatic and angular melody. Lear's speech seems comparatively subjective; listeners are drawn into identifying with the words of the storm soliloquy, while the abstraction of the additional lines creates a sense that they represent an external voice. The setting of these words imbues this external voice with an image of raw power. In contrast, the interjection provided by the Fool's portentous line 'out went the candle...' is melodically and registrally restrained; it seems meek and tentative, which highlights the fact that the Fool's good advice falls on deaf ears.

2.3. Shades of intelligibility

Dramatic implications of parallels or juxtapositions between concurrently and successively sung text selections depend heavily on the manipulation of relative perceptual proximity - i.e. the placing of words and phrases in the sonic foreground or background. My understanding of this process is influenced by Luciano Berio's use of text in pieces like 'Coro' and 'Sinfonia', in which numerous texts in a variety of languages are woven together in complex networks of thematic interplay, occupying a vast spectrum of intelligibility. Berio has written:

The perception and intelligibility of the text are never taken as read, but on the contrary are integrally related to the composition. Thus, the various degrees of intelligibility of the text, along with the hearer's experience of almost failing to understand, must be seen as essential to the very nature of the musical process.¹⁸

'Some Ill Planet' and 'Engar-dug the Fool' formally draw on the contrast between deliberate obfuscation of text through overlapping and repetitive textures, and its emphasis or clarification through homophony and unison. Both possibilities are employed to manipulate the way individual pieces of text are perceived, and the interplay between them conditions the experiential impact of overall forms.

'Engar-dug the Fool' begins with a process of gradual unveiling, in which the text of paragraph two emerges from a 'background' lattice of rhythmic ostinati (bb. 1 - 28). This lattice is initially constructed from the two syllables 'ze-za' (meaning 'croaker'), and comprises layered repeating patterns in three different time signatures that are notated for convenience in 4/4 (see Fig. 3, below). Variations in the texture are introduced gradually, beginning with the addition of the phonemes [xa] and [s] (from 'is-ħab') into the alto ostinato. The words 'teš nu-tu-ku' and 'nar-e-ne' are then introduced - subtly at first, and enmeshed in the lattice by their occasionally overlapping displacement between parts and concurrence with the still present ostinati. Repetitions of these words grow louder and more frequent until 'nar-e-ne' emerges from the texture in near-unison, completing the phrase 'ze-za nar-e-ne' (croaker among singers). Similar processes of background to foreground emergence occur in bars 29 - 39 and 144 onwards. The musical effect is an extended form of tension and release: tension results from the listener's impulse to extract meaningful information from a mixture of competing, indistinct linguistic units, and release occurs when one of these units becomes prominent. The pieces of text that emerge to prominence are afforded a particularly affecting type of emphasis as a result. One perceives the emotional charge but not necessarily the semantic detail of complex, overlapping text structures. And, when a piece of text emerges from them to become semantically clear, its repetition-induced - perhaps largely unconscious - familiarity, coupled with the sense of release resulting from a polyphony to unison transition, focuses and magnifies onto it the emotional charge of all the preceding material.

18 The Modern World [n.d.]: on-line, accessed 29 September, 2011.

Fig. 3: Polymetric ostinati in 'Engar-dug the fool'

The image shows three staves of music for Soprano and Alto parts. The first Soprano staff is in 7/8 time, the second Soprano staff is in 3/4 time, and the Alto staff is in 5/4 time. The lyrics are: Soprano 1: ze-za ze za za ze za; Soprano 2: ze-za ze - za ze za; Alto: sa ze za ze.

At the beginning of 'Some Ill Planet', whispered, overlapping repetitions of the first line of the storm soliloquy also create a background texture of overlapping texts. Word-intelligibility progressively dissolves from a clear rhythmic unison between two parts to a semantically indistinct atmospheric texture (bb. 1 - 11). Line 2a, which is whispered in rhythmic unison in bars 10 - 11 and 15 - 16, is comparatively clear and emphatic. The prominence of this line is heightened by the harsh, plosive attack of consonants in the words 'cataracts' and 'spout'. The phonetic character of line 4b is similarly sharp. It is treated as a climactic point of emphasis every time it occurs, the most dramatic example being the half-sung, half-shouted, antiphonal version in bars 38 - 39. This is a musical exaggeration of emphases placed on harsh consonants by Sir Ian McKellen in his portrayal of King Lear in the Royal Shakespeare Company's 2008 production.¹⁹

Some parts of the text are not obscured, but de-emphasized by overlapping textures. Heterophony between the two alto parts (bb. 48 - 49 and 53 - 55) does not make the Fool's line 'out went the candle and we were left darkling' any less discernible, but it does make it seem more tentative. The phrase 'rumble thy bellyful' is frequently understated in the setting through polyphony. Phonemes from within the word 'rumble' ([ʌ] and [m]) often overlap between different parts to create simmering textures that exploit the words' onomatopoeic potential (e.g. bb. 35 - 37). At the end of the piece (b. 129 onwards), the overlapping, low-tessitura setting of the phrase smoulders with latent tension. The words provide the 'disturbed babbling' that completes the overall dramatic arc of the piece.

¹⁹ Shakespeare, *King Lear*, film dir. by Nunn (2008)

3. Sculpting Dramatic Style and Atmospheric Character

3.1. The introduction of theatrical elements into concert pieces

I believe that compositional control of parameters traditionally associated with staged theatre pieces can significantly enhance the way a concert piece is received. In my own work, extra-musical elements are as integral to pieces as musical ones; I view composition holistically as the creation of atmosphere, which incorporates, but is not limited to, the creation of sound.

In 'To the People of Conscience' a single, subtle performance direction was used to create the desired sense of tension and discomfort. It was based on the idea that however abrasive a sung text might be, it is still possible to listen to it passively if one's attention is elsewhere. I was determined that when my setting of 'Death Poem' was performed, every single member of the audience would be forced to pay attention to the shocking words. Hence, I stipulated that performers move extremely close to the audience, breaking the proximity boundary of concert convention and maintaining unbroken eye contact with individual audience members for long periods at the beginning and end of the piece. This invasion of the audience's personal space, coupled with inappropriate, enduring eye-contact created an atmosphere of heightened tension, stimulating deeper engagement with the text.

'Engar-dug the Fool' is a lighter and more overtly theatrical concert piece than 'To the People of Conscience'; it was composed for the same ensemble because I wanted to write something to suit the performers personally, having composed 'To the people...' in such a way that their personalities were necessarily subdued. The atmospheric world of 'Engar-dug...' was influenced by their repertoire, improvisational habits, stage mannerisms and individual vocal sounds. I thought of the 'Engar-dug' text immediately when an opportunity arose to write a new piece for Juice, because they are so adept at evoking worlds that are timelessly elemental and intriguingly 'other'.

The stylized ancient taunting ritual that I imagined for the piece incorporated very particular mannerisms, all of which I had seen Juice demonstrate in other performances. Vocal tone quality, posture and facial expression were crucial. Performance directions like 'incantatory, spiteful and vicious' helped to communicate the appropriate style, but there was a lot that could be left undirected by the score because I was so familiar with the way the performers would instinctively treat particular gestures. I also composed percussive physical gestures into the piece to provide musical points of emphasis as well as theatrical demonstrations of the confrontational nature of the text. They included stamping in a threatening manner, punching the left palm aggressively with the right fist and smacking the left upturned palm violently, as if squashing an insect. Suitably angry and threatening facial expressions were essential for any of these gestures to be effective.

The idea for including physical gestures in 'Engar-dug...' arose because Juice were familiar with 'Some Ill Planet', which also includes stamping and clapping, and had requested that the next piece for them incorporate something similar. In 'Some Ill Planet', the stamps and claps occur during the tutti setting of the Fool's song (bb. 82 - 89); they were intended to heighten the raucous and unstable aspects of the music, retaining the inclement, disturbed character of the storm soliloquy, while the nature of the words shifted from melodramatic to lyric. They are also reminiscent of thunder and lightening, but are used in such a way that the link should only be unconsciously registered - if the choir stamped in concurrence with the word 'thunder', or clapped in time with the phrase 'crack your cheeks', the effect would be farcically unsubtle.

I extensively explored the contrast between voiced, unvoiced and semi-voiced vocal sounds in composing 'Some Ill Planet' and was hence able to exploit the theatrical potential of these techniques thoroughly in 'Engar-dug...'. Both scores comprise large amounts of rhythmic speech of indeterminate pitch, whispered words and semi-voiced hissing and spitting. Spoken parts of the text demand a more theatrically skilled realisation than whispered sections, in which characterization is mixed with stylization. Combining spoken or whispered and sung text is always compositionally challenging because there is such a blatant contrast between the two modes of performing. The spoken parts of both pieces would be rendered limp, perfunctory and artistically barren without detailed performance directions and willingness on the part of performers to get into character. Because of my familiarity with Juice, and because of their particular skills, 'Engar-dug' required fewer interpretational instructions than 'Some Ill Planet', which underwent numerous performance direction revisions, following a number of workshops.

3.2. The relationship between text interpretation and dramatic style in theatre Pieces

As well as dramatically enhanced concert pieces, I have composed two theatre pieces for staged performances. The most recent of these is 'Estat ai en greu cossirier', which was written immediately after 'Some Ill Planet'. It is a setting of an Old Occitan lyric by La Comtessa de Dia, which was composed in the second half of the 12th century. For its time, it is audaciously expressive of female sexuality. My composition is a comic theatre piece that caricatures this audacity by pairing a bold, confident characterization of the author with a prudish scribe - a made-up character whose role is to affirm to the audience that the Comtessa's writing is indeed as risqué as it seems. The idea of staging the piece as the dictation of a letter by the Comtessa to the scribe emerged from a desire to creatively include an English translation of the text in the performance. Since the intended amusing character of the piece derived from the content of the text, an English

translation was essential. However I could not imagine a theatrically convincing way to combine sung English with the original Old Occitan text, within the comic idiom I had chosen. I decided that the text would have to be projected onto a screen so that the timing of English translations could coincide exactly with the unfolding of events in the drama. The role of the scribe allows the projection of the English translation to be an integrated aspect of the staging; as the Comtessa reads each line, it is transcribed (in English) by the scribe, whose handwriting is projected onto the screen. In the first performance of the piece, an additional comic element that I had not predicted came from the diminishing legibility of the scribe's writing, which occurred as the Comtessa's words became more and more provocatively impassioned (and hence too fast for him to keep up with). All of the words sung by the scribe are repetitions of words from the original lyric; he seemingly echoes the words the Comtessa sings, in order to correctly dictate the letter. The scribe's brief musical interjections are tentative in character and his sustained lines are subordinate to the Comtessa's more flamboyant melodic material. In this piece, the processes of designing musical and visual (or theatrical) elements were interdependent and simultaneous. Directorial instructions to performers and a basic set design are contained in the score.

My other music theatre piece is a chamber opera, 'Dust in Space', which was the first piece I composed for my PhD portfolio. I directed the premiere in York Minster in 2008, taking responsibility for musical and theatrical realization as well as props, make-up and costumes. This experience served me well in preparation for combining musical and extra-musical elements in the composition of subsequent pieces. The plot is based on three characters from Chinese folklore, to whom a collection of beautiful poetry is credited: 寒山 (Hánshān - Cold Mountain), 豐干 (Fēnggān - Big Stick) and 拾得 (Shídí - Pick-up, or Foundling). Published volumes of the poetry tend to be prefaced with a testimony by a person known as 闍丘胤 (Lúqiū Yīn) - supposedly a government official who visited the three poets at their home on 天台山 (Mount Tiāntái).²⁰ Lúqiū Yīn describes various scenarios in which he has met the three poets, beginning with an account of how Fēnggān miraculously cured him of a debilitating headache. I combined paraphrases from Lúqiū Yīn's narrative with settings of the poetry itself, to create an integrated presentation of works attributed to the three poets and the mythology associated with them.²¹ The drama is set in an embellished, fantastical impression of early Tang Dynasty China.

The poems of Hánshān et al. are imbued with zen philosophy; they are neatly concise yet abstract and archaically decorative. Like much classical Chinese poetry they also invoke deeply evocative, naturalistic imagery. The compactness of the language is particularly well suited to musical settings - there are no articles, gender or tenses in Chinese, which means that nuanced meaning can be expressed through fairly few syllables. A neat illustration of this characteristic from

²⁰ The actual authorship of the poems is widely disputed and the existence of the three poets is doubtful. It is also likely that the testimony of Lúqiū Yīn is a forgery. See: Borgen, 'The Legend of Hanshan - a neglected source', 575 - 579.

²¹ A full synopsis prefaces the musical score. The complete poems used in the piece are reproduced in Appendix C.

the poetry set in 'Dust in Space' is the line 浮生若流水 (Fú shēng ruò liú shuǐ - Transient existence is like a flowing stream), which articulates a complex idea (requiring at least 12 syllables in English) in only five syllables. The art of expressing profound meaning through few words is a significant aspect of traditional Chinese rhetoric that results in frequent uses of aphorism and allusion. As described in the commentary on my setting of Wallace Stevens, I am very interested in the potential of music to express the subtextual meanings implied through such devices.

I designed a theatrical stylization that complimented the dignified economy and graceful phraseology of the poems' language. I drew on aspects of Beijing Opera performance practice, especially its typically slow, controlled gestures and avoidance of sharp corners or sudden changes in movement - characteristics that are definitive but can nonetheless be emulated by untrained western performers. Physical movement in Beijing Opera tends to be representational rather than realistic and this aesthetic is well suited to the abstract, transcendental character of the poems in 'Dust in Space'. Other ideas about theatrical realization came from performances of medieval music dramas that I had previously participated in.²² Medievalist imagery influenced performers' physical movements in these productions, with staged tableaux frequently recalling medieval art. Elements of this dramatic style were incorporated into 'Dust in Space' and the resulting cross-cultural (and multi-epoch) hybridity was heightened by the architectural setting of the premiere.

The music itself was also conditioned by the performance context: since York Minster is such a reverberant space, there is a preference for drones and sustained sonorities in the musical material. The *Senza Misura*, recitative-like passages during which much of the narrative unfolds are influenced by medieval chant, although they are not strictly modal. Other aspects of the music and instrumentation were designed to evoke Tang dynasty China; the use of the gamelan as an accompanying ensemble is due to the fact that music of the Chinese antiquity typically involved large groups of metallophones, more similar in character to a gamelan than any western ensemble. The use of strings was primarily practical - string players can adjust their pitch to tune to non-equal temperament gamelan pitches. I was also keen to exploit the capacity of stringed instruments to produce smooth glissandi, which would parallel characteristics of the singing style used in the piece.

²² Including Hildegard von Bingen's 'Ordo Virtutum' and 'Herod and the Slaughter of the Innocents', both of which were directed in York by a fellow research student, Mary E. Larew.

4. Approaches to Composition with Texts in Other Languages

4.1. The impact of Mandarin Chinese phonetic characteristics on my compositional vocabulary

The text-setting technique developed for 'Dust in Space' is probably the most enduring methodology that I have created; it has been applied extensively to instrumental as well as vocal composition.²³ The principle is extremely simple: Chinese tonal inflections are exaggerated in wide glissandi and long prolongations of natural speech rhythm (see Table 5, below). These characteristics are derived from the art of Beijing Opera composition, in which it is considered stylish to deviate from speech-rhythm and regularity. Like melisma in medieval European music, prolongation of syllables in Beijing Opera is a trait that differentiates high-art from folk music.

Table 5: Chinese tonal inflections, illustrated by the syllable 'ma' and its multiple meanings

1. mā - (high and level tone), meaning 'mother'
2. má - (mid - rising tone), meaning 'hemp' or 'numb'
3. mǎ - (falling and rising tone), meaning 'horse'
4. mà - (high - low falling tone), meaning 'scold' or 'swear'
5. ma - (toneless, unaccented), denoting a question

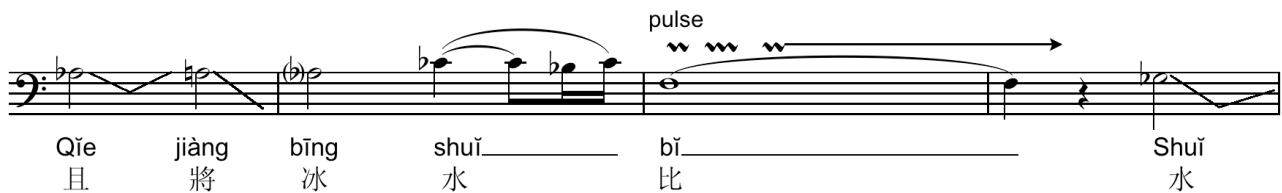
Contemporary Chinese pop music often ignores the tones, perhaps partly because popular culture in China has become so westernized that melodies tend to pastiche western popular music. In Beijing Opera and much classical Chinese music, the tones are treated with more reverence. A Chinese fellow composition student at The University of York relayed to me that his composition teacher in China had said of Chinese poetry that, if you want to make a musical setting, you must read the text 100 times and the melody will present itself. If the prosodic rules of Chinese speech are applied to music, melodic contour is severely restricted. However, I do not view this as a limitation but rather an opportunity to exploit the natural musicality of the Chinese language.

My approach to notating the Beijing Opera-infused vocal inflections in 'Dust in Space' is appropriated from a two soprano and orchestra piece 'Iris Dévoillée' (Iris Unveiled) by the Chinese composer 陈其钢 (Chén Qígāng). In this piece, one of the sopranos employs various Beijing Opera vocal techniques, including large glissandi and exaggerated vibratos that are traditionally paired

²³ See Chapter 8.2.

with syllables of specific tone. They are notated in a manner similar to the conventional representation of *sprechstimme*; starting pitches are indicated on five-line staves, and semi-indeterminate glissandi or pulsing tremolo effects are illustrated by wavy lines. A rough indication of the size of these inflections is demonstrated by their position on the staff. I used an adapted version of Chén Qígāng's notation in the 'Dust in Space' score; in this version of the notation, diagonal lines indicate exaggerated, semi-indeterminate glissandi, and straight but broken vibrato lines above the staff denote 'pulse' effects (Fig. 4).

Fig. 4: The type of *sprechstimme* used in 'Dust in Space'



In order to create musical material from the phonological characteristics of a language in this way, one must undertake extensive research, becoming familiar with phonological details on an analytical as well as an intuitive level. During the course of my doctorate, my fascination with Chinese poetry has resulted in a continuing study of the language, that could probably be observed by a Chinese speaker in the progressive improvement of accuracy and detail in my musical settings of it.

4.2. Old Occitan - a method for setting text in an unfamiliar language

The time scale for completion of pieces does not always allow for the level of research I would ideally undertake when composing in a language other than my native tongue.²⁴ For example, 'Estat ai en greu cossirier', which is in Old Occitan (or Old Provençal), had to be composed quickly.²⁵ But, because the performers who commissioned the piece had studied Old Occitan, I was able to create a process through which I could exploit their expertise in the nuances of the language to generate my musical ideas. I designed a set of flash cards listing different musical, theatrical and interpretive parameters and combined them with variously-sized portions of the Old Occitan text. And, in a series of workshop sessions I asked the two performers to randomly

²⁴ The amount of research required obviously increases significantly when the language in question is a 'dead' language.

²⁵ The piece was commissioned by Robin Bier, a performer undertaking research into the songs of female troubadours ('trobairitz') of the 12th and 13th centuries.

select flash cards containing parts of the text, combine them with several of the descriptive flash cards and improvise musical material accordingly.²⁶ I recorded around an hour of improvised material and was thus able to refer to examples of text from the poem, sung with various emotional and musical qualities, when composing the piece. The variety of different versions of each portion of text provided me with a fairly detailed guide to how the prosodic character of the language could be naturalistically incorporated into diverse musical contexts.

4.3. Sumerian and the construction of hypothetical prosody

In 'Engar-dug...' as in 'Estat ai...', there were limitations to the extent to which I could refer to the sound of spoken texts as a basis for musical ideas. In this instance, the limitations were not due to a lack of personal research, but the state of contemporary scholarship on the subject. Historical linguists have so far been unable to agree upon prosodic details of Sumerian pronunciation such as word-stress and whether or not there were semantically significant tonal inflections. Theories about these aspects of the language are speculative because there is as yet no archaeological evidence to support them.

For the purposes of reconstruction, informed guesses about aspects of lexical stress can be made based on principles that many other languages have in common.²⁷ In my musical reconstruction, I expanded on these basic principles by incorporating hypothetical, emotive word-stresses on the strength of analogies with emotive deviations from normal stress patterns in spoken English. For example, one could speculate that when the name 'Engar-dug' was uttered in spiteful mockery it might be pronounced with primary stresses on all three syllables ['ɛŋ'ɑ'dʊg] (in the same way that the English name David Smith ['deɪvɪd ,smɪθ] might be pronounced ['deɪ'vɪd 'smɪθ] in an emphatic, mocking tone). I also invented accentual patterns and inflections to suit musical ideas; for example, settings of the words 'lu pe-e-la' and 'lu-lil-la' place stress on different syllables at different points in the piece, depending on the type of melodic material used. In contrast to my habitual method of moulding musical gesture from the natural prosody of language, the use of Sumerian provided an opportunity to mould a certain amount of prosodic detail to suit musical gestures.

²⁶ The complete text is shown in Appendix B.

²⁷ E.g. root syllables of nouns, verbs, adverbs and adjective are likely to be stressed, while prepositions, conjunctions, prefixes and suffixes and less likely to be stressed.

4.4. Incorporating English translations into compositions in other languages

When I work with text in other languages, the way in which translations will be communicated to audiences is always carefully considered. Generally, I prefer not to rely on programme notes. In 'Estat ai...' a translation is incorporated into the piece 'extra-musically', through the projection of the Scribe's writing on to a screen. In 'Dust in Space', English translations of the Chinese poems are composed into the music. Virtually all of the Chinese text in the piece is translated into English as it occurs, although there are some frequently repeated passages that are sung without translations a number of times, because their meaning becomes clear through context as the piece progresses. For example, the line '誰家長不死' (shéi jiā cháng bù sǐ - show me the one who does not die), occurs in the 'Prologue' and at the beginning of almost every other movement of the piece, but the translation is withheld until the end of the final movement (Mvt. 6, p. 59). The relationship between text and translations is often contrapuntal; singers playing the parts of the three poets sing melodies in Chinese while the two 'narrator' trios sing countermelodies in English. In many instances, dramatic tension between sung and spoken words is exploited by the interplay between text and translations.

In 'Engar-dug...', English translations of the Sumerian are also composed into the piece. In this case, the intention is not to communicate the full text to audiences but to offer brief glimpses. The character of the setting conveys the spirit of the Sumerian words and short extracts from the translation confirm the overall sense, without laboriously obstructing the music's chant-like momentum. There are also dramatic implications to the interplay between text and translations in this piece. The use of fragmentary English translations of paragraph one in bars 52 - 64 creates a subtle reference to the children's fortune-telling song 'Tinker, tailor, soldier, sailor'. The sudden, prominent introduction of the English phrases 'disgraced man' and 'dirty man' in distinctly speech-like rhythms creates an impression of conspiratorial intimacy between soprano two and audience. This is particularly noticeable in the setting of 'dirty man', which is childishly taunt-like with its ugly glissandi, and - in contrast to 'disgraced man' - is not obscured by polyphonic Sumerian lines. The word 'fool', is emphasized further as a tenuto, sung simultaneously by second soprano and alto on a forceful major second. It recalls the emphatic finality of the word 'thief' in 'Tinker, tailor...' and is distinctly separate in character as well as tessitura from the concurrent Sumerian 'lu pe-e-la', which is melismatic and ornamented. This inclusion of translated words creates an unusual moment in which there seems to be direct communication between performers and audience - throughout the rest of the piece, the performers are cast as participants in an esoteric and introverted ritual.

5. Deconstruction of text into phonetic components

5.1. Motivations for deriving musical material from the micro-structures of speech

Both 'Some Ill Planet' and 'Engar-dug the Fool' expand upon the traditional role of the voice through the deconstruction of words into individual phonemes, which form a vast palette of timbral possibilities that is analogous to the instruments of an orchestra. With this expanded palette, singers can do more than narrate and reflect on themes - they can illustrate and represent them, evoke their atmospheric qualities and directly express their emotional content. The craft of selecting an appropriate phoneme for a musical moment in a vocal piece is much like selecting an appropriate instrument for a musical moment in an orchestral piece. The role of non-semantic sounds in my work encompasses three categories: 'instrumental', in that voices fulfil functions commonly associated with instruments; 'representational', which means that vocalizations imitate real-world sounds and create atmospheric effects, and 'elemental', in that vocalizations express human emotion in its pre-verbal forms such as moans, howls and cries.

5.2. 'Instrumental' use of voices

Drones are often used to create background harmonic colour in unaccompanied vocal music; this is a classic example of voices fulfilling an 'instrumental' function. Because I prefer to maintain a relationship between text and musical material in my work, the vowels used in drones and harmonic accompaniments are usually taken from words in the text. Sustained background harmonic sonorities occur frequently in 'Dust in Space', particularly in movements three and five, and phonemes sung in the accompanying parts are all derived from concurrently sung foreground texts. One of my preferred methods for creating harmonic tension between foreground and background material is 'selective sustain', in which a phoneme taken from a foreground word continues in the background for a period before dying away like an echo, or morphing into a different phoneme. There are numerous examples of this technique in 'Time Grows Upon the Rock', 'To the People of Conscience' and 'Some Ill Planet', as well as 'Dust in Space'. When large numbers of accompanying voices take up a vowel simultaneously, the technique can have a highly emphatic effect, as it does in 'Some Ill Planet', when the whole of choir one sing the vowel [a] from 'wild', strengthening the piercing B b at the apex of the melodramatic soprano solo (b. 50).

The polyrhythmic introduction to 'Engar-dug the Fool' exemplifies another typically

instrumental role performed by voices. Semantically indiscernible, de-voiced text fragments in this section take on the role of percussion instruments, building a layered, repetitive background texture. In 'Some Ill Planet', exaggerated rolled 'r's have a colouristic, percussive effect, in which they create subtle, less texturally penetrating versions of the drum-roll (bb. 18 - 19 for example).

5.3. Elementally expressive, non-linguistic sounds

Parts of the polymetric introduction to 'Engar-dug...' also have elemental emotive qualities. The sounds [s] and [xa], extracted from the word 'is-ḥab' (first heard in bar 10), are selected for their associations with threatening vocalizations like spitting, hissing and growling. Used in this way, the sounds have no semantic function, although they are derived from the text. In some instances, even complete words are distanced somewhat from their semantic function, by repetition, melisma, ornamentation and exaggeratedly slow transition between phonemes. The 'Engar-dug' motive has the quality of an anguished howl: slow, disjunct and shrill. It is always either set in unison, or decorated with one of the simplest, most immemorial forms of polyphony: a melodic 'round', in which time intervals between each statement of the melody are so small that the overall effect is more like a heterophonic echo than a deliberate canon. Similarly elemental in character are the instances in which settings of 'lu-lil-la' and 'lu pe-e-la' allude to the tune 'ring around the roses': often referred to as the 'universal taunting melody' (bb. 77 - 80; 104 - 106).

In 'To the People of Conscience' the vowel [ɜ], which is used in the drone that opens the piece, is selected for the affective qualities of its timbre (bb. 1 - 4). Like other central resonating open-mid vowels, [ɜ] has a slightly guttural, coarse quality. The mouth shape required to produce it is visually indistinct because it is neither a fully open nor a rounded vowel; neutral facial expressions were essential to the dramatic character at this point in the piece, so I could not use vowels that required pursed lips or wide open mouths. And, unlike [ɑ] and [u], the vowel [ɜ] does not have a long history of use in vocal music of various genres; it is thus comparatively immune to infection by cultural and idiomatic references that would interfere with the carefully constructed atmosphere.

Phonemes in 'Some Ill Planet' are also chosen for their timbral properties in some instances. In bar 124 for example, background voices accompany the foreground word 'thunder' with the vowel [ɑ], rather than taking [ɜ] or [ʌ] from the word. I wanted to exploit the dramatic, timbral impact of a sudden transition to a fully open back vowel [ɑ], imitating the resonant explosiveness of a thunderclap. Phonemes are sometimes repeated or alternated with other phonemes to create complex, varied tremolo textures. For example, alternations between, and repetitions of phonemes from the word 'rumble' exploit its onomatopoeic properties in bubbling textures (bb. 35 - 37; 112 - 117).

5.4. The use of voices to imitate environmental sounds

At the beginning of the fifth movement in 'Dust in Space' (p. 51) voices imitate the sound of the wind by way of ad lib. repetitions of three syllables - Wú liàng shòu - that are by that point very familiar, having been heard in most of the preceding movements. By conspicuously deriving the vocal atmospheric sounds from the text, I ensured that the imitation of the wind was subtle enough not to sound silly. In 'Some III Planet' I also used voices to imitate the wind, but aimed for a greater degree of control over the phonetic content, timing and dynamic range of sounds. The overlapping whispered lines at the beginning of the piece have precisely defined dynamic and registral contours, and transitions between phonemes in the text often occur in exaggerated slow motion, sometimes modified by interpolated phonemes (A. 2, bb. 1 - 2 for example). Ingressive whistles (e.g. A. 2, b. 14) intensify the blustery atmosphere, and percussive plosives and fricatives - [k], [t], [s] etc. - sprinkle the whispered backdrop with impressions of wind-swept detritus colliding with surfaces and dead leaves falling from trees. The cumulation of plosive 'points' in bars 24 - 26 resembles the swell one hears in a spattering of rain that is suddenly blown in a different direction by the wind. As in 'Dust in Space', the phonetic content of atmospheric sounds in 'Some III Planet' is derived entirely from the phrase 'crack your cheeks'.

5.5. Gradated transitions from whispered to pitched vocalizations

One of my major considerations in crafting the beginning of 'Some III Planet' was controlling the process of transition from unpitched to pitched sounds. It is the first piece in which I tried to create a gradual change from noise to notes, introducing pitched sounds slowly and subtly so that they were hidden at first and then became progressively more prominent, until the unpitched sounds had disappeared altogether. Quiet, short, mid-register pitched sounds are introduced one by one, with each entry timed to coincide with points of emphasis in the whispered text. Perceptibility of pitched sounds increases by degrees, in orchestration (from solos to sections), dynamics, vocal tone, duration and their relationship to the whispered text, until they became completely dominant. In the score, this point of arrival is the word 'rain' in bar 39.

In 'Engar-dug the Fool' I made extensive use of semi-voiced, indeterminately pitched vocalizations to make the process of transition from whispers to pitched sounds more subtle. The polyrhythm in the opening of the piece begins with unpitched whispers; after six bars, the alto utters a short, almost imperceptible semi-voiced 'za'. After that, more semi-voiced syllables are dotted around the three parts with increasing frequency, until the lattice texture becomes a mottled combination of unvoiced and semi-voiced sounds. The prominent vowel sounds 'nu-tu-ku' are then

introduced, followed by pitched but still semi-voiced articulations of 'nar-e-ne'; both phrases are repeated with increasing frequency. Fully voiced sounds are first introduced in bars 20 - 21, from which point onwards pitched sounds grow louder and more frequent, culminating in a unison phrase in bar 28. I analogized the process of transitioning gradually from noise to pitch, with using a 1980s computer graphics programme to convert a white space into a black space, one pixel at a time, in a random but exponentially increasing sequence. It is an identifiable process in many of my subsequent pieces; my methods of achieving this effect have been continually refined and adapted to suit different instrumentations.

6. Text as a thematic basis for instrumental Pieces

6.1. Anthropomorphism in three instrumental works

My chamber orchestra composition 'Laments of the Gorges' is based on an anachronistically experimental and uniquely surreal poem of the same name by 孟郊 (Mèng Jiāo) (751-814 AD), which describes the nightmarish fury of 三峡 (Sān xiá - Three Gorges), a notoriously treacherous stretch of water along which exiled people travelled during a period of chaotic upheaval in the late Tang dynasty. The poem is incredibly dark, evocative and unusually subjective (for Chinese poetry), articulating not only the turbulence of the water itself but also the chaos of the war-ravaged epoch in which it was written, and the trauma of Mèng Jiāo's tragic personal circumstances.²⁸ Mèng Jiāo repeatedly likens the Three Gorges to a terrible dragon with jagged rock-teeth and foaming saliva:

Riverbanks battered and awash, sawtooth waves open. Snarling, snarling.
 Spewing out the valley's brimful cries, swirling embattled around rock's fury.
 Swordblades of rock slice at each other, rock broken waves all angry dragons.
 Unearthly voices rise from hidden dens. Flies thicken, buzzing currents in flight.²⁹

My musical response to the poem moulds a feral animal out of the chamber orchestra, causing it to sleep, wake, breathe, howl, snarl and gnash its teeth. The breath sounds at the beginning of the piece represent the breaths of a slumbering monster, mixed with whispers of 'unearthly voices', while the climactic melody at rehearsal letter J represents the monster's furious awakening. Ideas for the individual character of each section came from the intensely evocative imagery in the poem. The overall dramatic arc can be divided into six sections, as follows:

Table 6: Form of 'Laments of the Gorges'

1. bb. 1 - 60.	Swirling breath-sound cloud - the dragon sleeps
2. bb. 61 - 79.	Enraged, climactic tutti - the dragon wakes
3. bb. 80 - 118.	Submergence into disconcerting underwater stillness
4. bb. 119 - 158.	Surfacing to the sound of the dragon roaring and gnashing its teeth

²⁸ Hinton, *The Late Poems of Meng Chiao*, xi - xv

²⁹ Ibid. Other extracts reproduced in Chapter 7.1.

(Table 6 - cont.)

- | | |
|-------------------|---|
| 5. bb. 159 - 174. | Chaos and confusion amidst the crashing waves |
| 6. b. 175 - end. | Numbness and retreat - the dragon withdraws |

Dramatically different in character to 'Laments of the Gorges', but still strongly anthropomorphic, my string quartet 'Other world which no-one owns...' emulates the ebb and flow of slow, meditative breathing. It was commissioned for a concert exploring the theme of 'silence', my conception of which is the rare moments in which we are able to focus intensely on the sound of our own breathing. The piece includes yogic breaths by the performers, which merge into yogic-breath-like *sul ponticello* sonorities that intensify and dwindle. Its atmosphere is inspired by Sam Hamill's translation of the 李白 (Lǐ Bái) poem '山中間答' (Shān zhōng wèn dá - Mountain Question and Answer):

You ask why I make my home in the mountain forest,
and I smile, and am silent,
and even my soul remains quiet:
it lives in the other world
which no one owns.
The peach trees blossom,
The water flows.³⁰

Hamill's translation evokes an atmosphere of serene stillness, which I was keen to emulate. I wanted concert performances of the piece to conjure an oasis-like intermission of serenity between other pieces in the programme; through its introspection, patience and sense of 'being' rather than 'doing' it contrasts with other musical works, and thus parallels the poet on the mountain - at peace in his distance from the rest of the human world.

In stark contrast to the meditative breath sonorities in 'Other world...', the breath-like undulations in the large ensemble piece 'Still Sky Bells' resemble the sinister heavy breathing of an affluent, obese and evil person, indulging in excessive sensory and culinary pleasures. The idea for this piece took root when I visited 曾侯乙编钟 (Zēnghóuyǐ Biānzhōng - the Biānzhōng of Marquis Yi of Zeng) at the Hubei Provincial Museum in Wuhan, China. These 65 bronze bells, which were made in 433 BC, are mounted on two wooden racks and range from 2.4 to 204 kilograms in weight. When they were unearthed from the Marquis Yi of Zeng's tomb in 1973, their technological sophistication and exquisite craftsmanship astonished the global archaeological community. The bells completely captured my imagination, provoking an intellectual obsession with

³⁰ *Poetry Chaikhana* website (accessed 30 September, 2011).

the music of Warring States Period China. During my reading around the subject, I encountered a treatise by the philosopher 墨子 (Mòzǐ) entitled 'Condemnation of Music'. Mòzǐ argues that the making of musical instruments and the performance of music distracts people from their duties and deprives them of the means to feed and clothe themselves. He points out that 'heavy taxes have to be collected from the people to obtain sounds of the big bell, the sounding drum, the qin and the se, and the yu and the sheng'³¹ Much of his discourse is pragmatic and based on the idea that music, while not inherently evil in itself, does not help to combat the evils of the world and should thus be prohibited:

Now suppose we strike the big bell, beat the sounding drum, play the qin and the se, and blow the yu and the sheng, can the material for food and clothing then be procured for the people? Even I do not think this is possible. (...) Can the chaos in the world be put in order by striking the big bell, beating the sounding drum, playing the qin and the se, and blowing the yu and the sheng? Even I do not think it is possible. Therefore Mozi said: The levy of heavy taxes on the people to construct the big bell, the sounding drum, the qin and the se, and the yu and the sheng, is not at all helpful in the endeavour to procure the benefits of the world and destroy its calamities. Therefore Mozi said: To have music is wrong.³²

Mòzǐ also quotes another ancient treatise (now lost), which condemns music outright as an indulgent, wicked 'sorcerer's pleasure':

"Qi thereupon abandoned himself to lust and music. He drank and ate in improper places. Ding ding, dong dong went the wood winds and percussion instruments in harmony. He indulged in drinking and ate in improper places. Brilliantly went on the dancing. It reached the hearing of Heaven, and Heaven was not pleased."³³

Mòzǐ's discourse reminded me that the greatest relics of antiquity could never have been created without slavery and mass exploitation. And, the awe the Biānzhōng had previously inspired in my imagination became infected with morbid distaste. I decided to write a piece of music evoking an atmosphere of obscene indulgence in 'lust and music'. I imagined a decadent and corrupt ruler, enjoying the ritualistic striking of big bronze bells in his privileged court, flimsily separated from the plague and poverty of his subjects. This character is embodied by the slowly shifting, low tessitura lines at the beginning of the piece (bb. 8 - 48) and the opulent harmonic progressions between rehearsal letters E and J, which seem to ooze into one another, rising and falling like heavy, lethargic and muculent breaths. Grossly extravagant tam-tam 'tolls', recalling the

³¹ *The Chinese Text Project website* (accessed 30 September 2011).

³² *Ibid.*

³³ *Ibid.*

sound of the ancient *Biānzhōng*, mark the peaks of successively more brazen and morbidly indulgent climaxes. Unpitched woodwind breath sounds enclose the culmination of gestures and shifts in harmony in ellipsoid swells. Like the quartet in 'Other world...' and orchestra in 'Laments of the Gorges', the ensemble in 'Still Sky Bells' seems to breathe through its harmonic progressions.

6.2. Contemplation of the Dust

My string trio 'Lēopsong' is based almost entirely on patterns of alliteration and stress in an Old English poem 'The Ruin', an eighth-century text in The Exeter Book, by an unknown author.³⁴ The poem juxtaposes the desolate and deserted Roman ruins at Aquae Sulis (modern Bath) with a magnificent imagined city that once stood there. The anonymous poet marvels at the might of 'wyrð' (fate), which has laid such wealth and splendour to waste. The power of ancient ruins and relics to stimulate reflection on the rise and fall of previous civilizations is a recurring theme in Anglo-Saxon literature. And, there is a specific Old English word that describes such imaginings: '*dūstscēawung*', which is literally translated 'contemplation of the dust'. Rather appropriately, the Exeter book has been damaged by fire, which destroyed or rendered illegible large portions of the poem, leaving it in a fragmentary form like the ruin it describes.

The atmosphere of the piece is primarily dark and brooding, although the opening few bars emulate, with bright, decisive gestures, the impact of seeing an impressive, ancient structure for the first time. A sense of awe is cultivated in the introductory section (bb. 1 - 25), which then merges with disturbed trepidation in bar 26 as the viola melody 'intones' words of the poem that express the poet's fearful respect for the might of *wyrð*: 'Wrætlic is þes wealstān/wyrde gebræcon' (wondrous is this stone wall/fates broke it). Alternations between calm and fearful states characterize the form of the piece, expressing the plight of the human animal, which is torn between marvelling at, and being frightened by its own insignificance. The sonorities that begin the piece are referenced at the end (b. 160 onwards) in a dramatically static succession of breath-like swells.

³⁴ Complete text shown in Appendix D

7. Dramatic Considerations in Structuring Instrumental Works

7.1. Processes of transition from noise to pitch

Gradated transitions from noise to pitch like those used in earlier vocal pieces are present in most of my instrumental works, partly as a result of my fascination with evoking the sound of breathing. In 'Laments of the Gorges', the timbre of whispering voices is emulated by breath sounds on woodwind and brass instruments. The first sketches I made for the piece were graphic images of cloud-like grayscale forms with tiny specks of bright, reflective silver emerging from them - similar to shimmering specks that can be seen when the sun shines through a cloud of dust. Like the unpitched background texture in the opening of 'Some Ill Planet', the background texture in the opening of 'Laments of the Gorges' is formed from breath-like, unpitched sounds. High-pitched, bright and resonant instruments speckle the breath-sound cloud with a sonic analogue to flecks of light.

The process of transition from unpitched to pitched material occurs in stages, beginning with 'pure' breath sounds (pp. 1 - 2; I - VI). Other instruments are added and the texture becomes more dappled, first with the introduction of granular noise produced by spit against the clarinet reed and then by erratic, un-pitched tongue-rams on the contra bassoon. The introduction of the first pitched sounds is timed to coincide with loud breath sounds in the brass (III). The simultaneous trumpet, trombone and horn entries create a prominent expulsion of air, using a particularly noisy phoneme - [ʃ]. This conceals a *ppp* tam-tam roll which gradually emerges out the texture, crescendoing to a just-perceptible dynamic and then fading.

From this point, three categories of pitched sounds gradually proliferate: bright, resonant 'specks'; single sustained notes (transitioning into layers of multiple sustained notes); and melodic fragments. Harp harmonics, glockenspiel, crotale and finger cymbal hits are conceived as 'bright specks' which cause the breath-sound cloud to sparkle with increasing intensity (VII onwards). Sustained notes are first introduced as barely perceptible *sul ponticello* solos (fl./vc., VII onwards), which gradually become longer, clearer and louder until they begin to overwhelm the breath sounds. By bar 36, a strong, continuous pitch centre is established.

Melodic fragments emerge from a flurry of finger cymbal 'specks' in bar 39; pitched percussion and harp continue the burst of activity with fast repeated notes that morph into a melodic gesture. Subsequently, melodic fragments are distributed between the string parts, played at first by solo players and single desks, then by whole sections. Initially, the melodic gestures are perceived as fragmentary, but from bar 47 onwards there is a sense of continuous line.

Harmonies preceding bar 60 are static; almost all of the melodic fragments and sustained

itches are derived from a single sonority (Fig. 5), which is derived from Messiaen's second mode of limited transposition - the diminished scale. The first pitches in the piece are prominent (lower) partials of the E \flat harmonic series, but the same notes (in octave transpositions) are also part of the chord in bar 60. Melodic gestures are formed from the same diminished scale. Because of this, the climactic arrival at bar 60 is imbued with impressions of both continuation of the familiar and dramatic transformation.

Fig. 5: Sonority in 'Laments...' -

derived from the diminished scale



Fig. 6: Sonority in 'Other world...' -

derived from a hexatonic scale



In 'Other world which no-one owns...' I also used a single sonority - this time derived from a hexatonic truncation of Messiaen's third mode of limited transposition (Fig. 6) - as the basis for a gradated process of transition from noise to pitch. In this piece, I replaced breath sounds and whispering with extreme *sul ponticello*, requiring players to play right on the bridge to produce unpitched white noise. The first sound in the piece is a quiet inhalation of air - the first violinist breathes in orally and then begins a *molto sul ponticello* tremolo, which appears to grow out of his inhalation and then overlaps with his exhalation. The other strings also bow right on the bridge, producing white noise. Their entries are staggered to create a crescendo of orchestration, so that the noise texture seems to emerge from silence. The first audible pitches are high harmonics that sound when the violist adjusts his bow position to play almost on the bridge. Chord tones (Fig. 6) are introduced from the middle outwards so that the introduction of the root note is delayed. The players gradually transition from *molto sul ponticello* bowing, in which mainly high harmonics are audible, to *sul ponticello*, in which the fingered notes are discernible, but coloured by high frequency noise. The texture remains fragmentary as the players alternately interrupt their fingered notes with artificial harmonics and vary the speed of their tremolos. These artificial harmonics replace the high harmonics produced by *molto sul ponticello* bowing, so that the gradual transition to *normale* bowing is almost imperceptible. The violins begin to decorate their chord tones with accented adjacent pitches in bar 10, while the viola and cello gradually filter out their artificial

harmonic interruptions, strengthening the harmonic foundations of the overall sonority. Finally, the accented violin motives slow and come to rest on their original chord tones. The quartet collectively swell in dynamic and re-introduce vibrato, pausing at the apex of the gesture to affirm the sonority of the chord. The whole process is then reversed, creating an ellipsoid form. Thus, delicate, subtle whispers seem to grow out of silence, slowly morph into a resonant, rich sonority and then fade back into silence.

7.3. Dramatic implications of gradated transition

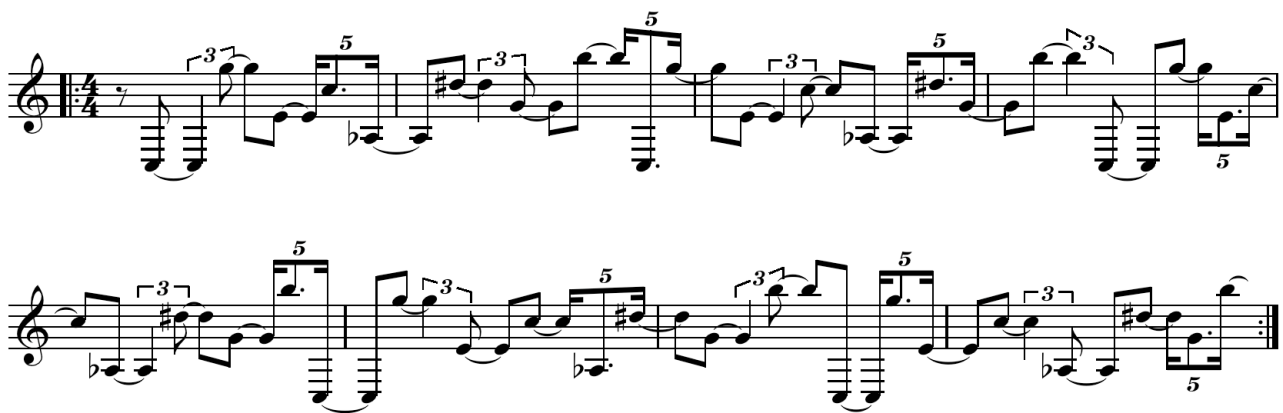
Prolonged harmonic stasis is crucial to the atmospheric character of both 'Laments of the Gorges' and 'Other world...'. By withholding the full impact of the parent chord from which all of the preceding material is derived and thus prolonging a sense of harmonic ambiguity, I paved the way for moments of intense dramatic impact when the two sonorities were fully unveiled. In 'Laments of the Gorges', the climatic point of arrival gives way to the only instance of localized harmonic progressions (rather than gradual transitions) in the piece. It is a moment of wild catharsis, heightened by the angularity of the melody that grows from it. In contrast, the harmonic progressions that follow the point of arrival at bar 51 in 'Other world...' have a sense of gently falling away from the previous sonority. The change from static to moving harmony is softened by the fact that the first new sonority is just a re-voicing of the original chord, still executed in *sul ponticello* tremolos. The progressions that immediately follow alter the original chord in stages, removing notes so that the ambivalent augmented major seventh chord becomes a second inversion triad. The overall effect is calm and gentle, like a slow, controlled exhalation.

Similar 'yogic' harmonic progressions are one of two contrasting types of material that make up the rest of the composition. The other type comprises hocketed *klangfarbenmelodies* built from overlapping harmonics and *sul tasto* notes; this material predominates from bars 107 to 130. It is distinctly different in character to the yogic chord progressions, yet still transitions between different states through controlled degrees, rather than in distinct, instantaneous shifts. The section in which the *klangfarbenmelodie* material becomes predominant is repeatedly prefigured, so that when it does begin properly, it echoes previous ideas more than it signals the start of something new. The new material is first introduced in the form of hocketed high harmonics, which gently and almost imperceptibly interrupt a sustained sonority (bb. 61 - 70). The interruptions are fleeting and give way to block harmonic progressions. The process then recurs in bar 84, although this time the overlapping harmonics are asserted more forcefully. Once again, they are followed by a return to a chordal texture. Finally, the yogic chord in bar 103 disintegrates, forming a lasting transition from one type of material into the other. Throughout the succeeding *Senza Misura* passage, the sustained root note gradually fades, giving way to the overlapping harmonics above it.

7.4. The moderation of contrast between chordal and *pointillistic* textures

I reused an early sketch of the hocketed material written for 'Other world...' in 'Still Sky Bells'. The original sketch is a hexatonic isorhythm, which was a little too dynamic to be used in the string quartet, as it interfered with its meditative stillness.

Fig. 7: Isorhythm from sketches for 'Other world...'



When composing 'Still Sky Bells', I remained concerned with blurring the contrast between different musical ideas through subtle interpolations. The first half of the piece is harmonically rich and varied, with a sonically glutinous character that demands to be balanced by a lighter texture and a period of harmonic stasis. To achieve this contrast, I used the isorhythmic *klangfarbenmelodie* from my quartet sketches (Fig. 7), featuring the plucked instruments and percussion, to create a resonant, music-box-like texture (beginning b. 112). The intermediate stages between the full unveiling of this new material and the harmonic blocks that precede it comprise two distinct layers: a slowly morphing harmonic substructure - in the strings and woodwind - and a bright, resonant superstructure in the plucked instruments and percussion, which transitions from long, overlapping melodic gestures into sparse, *pointillistic* 'specks'. The melodic motives in the harp, piano and guitar in bars 96 - 108 are improvisatory, relaxed and decorative. They reference melodic material from earlier in the piece, redefining it within the new, static harmonic context. From bar 103 onwards, they dwindle, becoming progressively quieter and less florid until they give way to single, sustained points, which anticipate the pitch content of the ensuing isorhythmic material. Prefigured thus, the isorhythm begins unobtrusively; it replaces the contrasting material through an amorphous transition, without a discernible moment of arrival.

7.5. Interpolations between harmonic sonorities

At the same time as the transition from melodic to *pointillist* foreground material in 'Still Sky Bells', the underlying harmony slowly shifts from an emotionally powerful $C^7(b^{13})$, with a solid, low-register root (b. 96), to a more ambivalent $A^b MA^7(\#^5)$, voiced in mid-register (b. 113). Although these two chords have many notes in common, they are distinctly different in character. In order to mask this difference, the transition between them happens in stages, through a combination of octave transpositions of individual parts and 'a niente' diminuendos. Each of the intervening chords sounds similar enough to the one that precedes it, that the change is barely noticeable. The interpolated chords are shown in Fig. 8, below.

Fig. 8: harmonic interpolations between rehearsal letters J and K in 'Still Sky Bells'



This method of interpolation derived from processes used to transition between spectral and octatonic harmony in 'Laments of the Gorges', which, in turn, were based on Gérard Grisey's technique of introducing inharmonicity to harmonic spectra by degrees, through octave transposition of individual partials.³⁵ In 'Laments of the Gorges' (bb. 145 - 159), I created a series of interpolations between a B^{\sharp} harmonic series (see chapter 8.3, below) and the diminished sonority that is heard recurrently throughout the piece (Fig. 5). Intermediate sonorities are created through octave transpositions of individual partials. Some of the octave transpositions are slightly short in order to remove quarter tones and in other instances, partials are transposed by multiple octaves. Often, partials are transposed into new parts but also retained in their original instrumental setting, creating doublings. And, in many instances transpositions could not occur within single parts because of range limitations etc., so partials were transferred between instruments. The process is illustrated in Fig. 9, below.

Like the harmonic interpolations between bars 96 and 114 of 'Still Sky Bells', the interpolated chords in 'Laments of the Gorges' provide background colour; a percussion solo dominates while the spectral chords beneath it slowly morph into the new sonority. There is no clear point of arrival and the percussion solo continues after the new chord has been reached, still dominating the foreground. Individual instruments within the harmonic background begin to

³⁵ See Rose, *Introduction to the Pitch Organization of French Spectral Music*, 8 - 11

decorate their assigned chord tones with melodic motives, which create a textured harmonic field. A huge orchestral swell ensues, in which Lutoslawski-style indeterminacy creates an intricate, pulsating texture. Despite the contrast between the preceding B \sharp harmonic spectrum and the intense orchestral swell, the first idea seems to morph imperceptibly into the second. The controlled indeterminacy between between b.154 and b.174 is essential to the amorphous character of the transitional process.

Fig. 9: Interpolations between spectral and diminished sonorities in 'Laments of the Gorges', bb. 147 - 154

The image displays a musical score for measures 147 through 154 of 'Laments of the Gorges'. The score is written for four staves: Treble 1, Treble 2, Treble 3, and Bass. The key signature is B major (two sharps). The notation consists of dense chordal textures. Blue arrows and lines highlight specific melodic and harmonic transitions between measures, illustrating the 'interpolations' mentioned in the caption. Vertical dashed lines separate the measures. The final measure (154) shows a change in key signature to B minor (two flats).

8. Text as sonic material for instrumental Pieces

8.1. Musical structure derived from Old English poetic formulae

Like the Chinese poetry that inspired many of my compositions, Old English poetry, which inspired 'Lēopsong' has an elemental musicality that results from its metric and alliterative formulae.³⁶ The earliest Old English manuscripts date from around 700 AD, when scholars first adopted the Latin orthography to express their vernacular language. Most of the surviving Anglo-Saxon poetic corpus dates from the late ninth century, when cultural activity flourished under the reign of King Alfred the Great. Some scholars believe that many of these manuscripts are transcriptions of poems that existed in oral form long before the manuscripts were written. Whether this is true or not, the poems certainly have a close stylistic relationship with the bardic tradition from which they developed.

When [the Saxons] migrated from the Continent to the British Isles, they brought with them a well-developed poetic tradition shaped by centuries of oral improvisation in the Germanic north. Not only was this tradition rich with legends and characters, but it also included a highly formalized poetic diction and an intricate system of versification.³⁷

Pre-Christian Anglo-Saxon culture and beliefs were grounded in the 'Germanic Heroic Code', the facets of which (primarily loyalty and bravery) were affirmed in epics or sagas. Like the bards of many ancient cultures, the Anglo-Saxon poets were storytellers, whose verses both reflected and helped to mould the beliefs of their society. It is quite possible that the earliest poetry in Old English was sung to the accompaniment of a harp or lyre.³⁸ In the historian Bede's account of the poet Cædmon (popularly known as the first English poet), Cædmon's oral poems are described as 'songs', the spontaneous composition of which is referred to as singing.³⁹ In fact, there is no linguistic differentiation between song and poetry in Old English as there is in Modern English. My string trio was very much inspired by the idea that English poetry and music have divergently evolved from a common ancestor; its title, 'Lēopsong', is the Old English word that means both 'poetry' (or 'poem') and 'song'.

Word-stress, metre and alliteration in Old English poetry are governed by detailed formulae. Accentual patterns conform to a set of rules codified by Eduard Sievers, known as 'Sievers Types' (see Appendix E). The first stage in planning how to incorporate the language of 'The Ruin' into my

36 See: Greenfield and Calder, 'Some Remarks on the Nature and Quality of Old English Poetry', 125

37 Mitchel and Robinson, *A Guide to Old English*, 232

38 See: Pope, *Eight Old English Poems*, 43

39 Bede, *Historia Ecclesiastica Gentis Anglorum*, book IV chapter xxiv

string trio involved analysing its meter and stress patterns, by categorizing the half-lines (the basic structural units of OE poetry) into Sievers Types. Sievers' five categories illustrate that the OE half-line always contains at least four syllables, divided into two feet, with a major stress in each. There are variable numbers of unstressed syllables within each category. By far the most commonly occurring pattern is a four-syllable half-line, with primary stresses on the first and third syllables, while the second and fourth are unaccented. As a result, substantial portions of most OE poems (including 'The Ruin') can be read in a regular 4/8 metre. There are differences of opinion among scholars as to rhythmic realization of the unstressed syllables. There are two contrasting schools of thought: isochronous and nonisochronous. According to the latter, the uneven number of syllables often found in a half-line indicates that the poetry was spoken in irregular metres. Exponents of the former believe that unstressed syllables are compressed into a 4/8 metre, even though this often results in awkward rushing. John C. Pope has suggested that harp or lyre accompaniment may have filled spaces left by half-lines not superficially conforming to a 4/8 metre, thus maintaining an isochronous form without resorting to awkward rushing.⁴⁰ I listened to two recordings of 'The Ruin' before composing 'Lēopsong' - a nonisochronous reading by Professor Stuart Lee and an isochronous reading by Burton Raffel.⁴¹ My eventual setting based some motivic material on Raffel's isochronous reading of the poem, which seemed to me to be more elementally musical than the nonisochronous version. However, keeping within my own compositional idiom, I allowed some metric flexibility.

Fig. 10: Melody derived from 'The Ruin', lines 1 - 3 in 'Lēopsong', bb. 26 - 34⁴²

26 *mp* *mf* *f* *ff* *f*

Wræt-lic__ is þes weal - stān;__ wyr - de ge - bræ - con burg - ste - de bur - ston;

31 *f* *f* *mp* *f* *p f*

bro - nað en - ta ge - weorc. Hrō - fas_ sind ge - hro - re - ne, hrēor - ge tor - ras...

In the instrumental realization of the melody derived from the language of 'The Ruin' (partly illustrated in Fig. 10, above), bowing techniques, ornaments and dynamics were designed to

40 Pope, *Eight Old English Poems*, 116 - 138

41 Lee, *The Ruin*, youtube video, (accessed 30 September, 2011); Raffel, *Lyrics from the Old English*, CD (2009)

42 Abbreviation 'scr. t.' stands for 'scratch tone'

emulate the sound of the consonants in the text, giving the instrumental lines a speech-like quality. For example, the glide from the rounded semivowel [w] to the open vowel [æ] (b. 27 - 'weal', pronounced [wæɑl]) is approximated by a glissando on a single bow.

The other significant poetic formula assimilated into my composition is alliterative scansion. In OE poems, consonants at the beginning of stressed syllables alliterate with one-another in half-line pairs. When vowels occur on stressed syllables in the first half-line, any other vowel may be used on the first stressed syllable in the second half-line - i.e. all vowels alliterate with all other vowels. In my analysis of 'The Ruin' (Appendix F) I charted the alliterative phonemes from each pair of lines, as well as categorizing the accentual patterns of each line.

I designed the musical structure of 'Lēopsong' in accordance with the alliterative structure of the fragments of the poem that I wished to include. I made editorial sectional divisions in the layout of the text based on recurrences of common phonemes, such as [w]. The form of the piece is a fairly straight 'reading' of the chosen extracts, divided into these alliteratively demarcated sections. The harmonic structure is governed by the alliterating consonants, each of which was accompanied by a specific sonority, some examples of which are shown below:

Fig. 11: Alliteration-based sonorities used in 'Lēopsong'



These sonorities are not chosen to suit the sound of the specific phonemes (as in 'Dust in Space'), although phonetic timbre is emulated through bowing technique etc. Instead, the sonorities reflect the overall character of the poem and world it evoked in my imagination (described in Chapter 6.2).

The 'reading' of the poem (beginning b. 26) progresses through the text in the order outlined in Appendix F. Half-lines are interspersed with static interludes, or 'breaths', in which musical material elucidates atmospheric aspects of the poem. The only adjustment made to the order occurs in bar 99, at which point, I felt a re-harmonized recapitulation of the melodic material accompanying the 'w' - 'b' - 'hr' sonorities in bars 26 - 36 was called for. This particular collection of motives became something of a main theme, because of the frequent recurrence in the poem of the syllables they are paired with. The theme has a folk-like quality because of its close relationship to the poetic metre and accentual patterns it is derived from.

8.2. Instrumental 'sprechstimme' derived from Chinese tonal inflections

In melodic instrumental writing, I aspire to compose lines that have an intuitive sense of familiarity, which cannot be attributed to musical appropriations; I create this elemental character by constructing melodies from language - Old English poetry in 'Lēopsong', and Mandarin Chinese poetry in several other pieces. Most of the melodic material in 'Laments of the Gorges' is derived from Chinese tonal inflections; I 'set' parts of the poem using the Beijing Opera-based *sprechstimme* technique that I had developed for 'Dust in Space'. Specific extracts were selected to compliment the character of the different sections outlined in Chapter 6.1. I approached the process of selecting fragments from the poem as if 'Laments of the Gorges' was a vocal, rather than an instrumental piece; the text was deconstructed and set in a similar way to the text in 'Some Ill Planet', with certain phonemes repeated and prolonged and others realized in accordance with natural speech rhythms. I used a combination of different approaches, including the melodic *sprechstimme* technique, to set the text, creating a network of language fragments with varying degrees of discernibility. The specific text selections used in each section of the piece are shown in the table below.

Table 7: Selections from Mēng Jiào's poem within the form of 'Laments of the Gorges' ⁴³

Section 1.

峡哀哭幽魂，皷皷风吹来。	Xiá āi kū yōu hún, jiǎo jiǎo fēng chuī lái.	Laments of the gorges, shadowy spirits mourning. Winds howl.
破魂一两点，凝幽数百年。	Pò hún yī liǎng diǎn, níng yōu shù bǎi nián.	Splintered spirits glisten, a few glints frozen how many hundred years in dark gorges
奠泪吊泼灵，泼灵将闪然。	Diàn lèi diào pō líng, pō líng jiāng shǎn rán.	Offer tears to mourn the water ghosts, and water ghosts take them, glimmering.

Section 2:

三峡一线天，三峡万绳泉。	Sān xiá yī xiàn tiān, sān xiá wàn shéng quán.	Triple Gorge one thread of heaven over ten thousand cascading thongs of water,
上仄碎日月，下掣狂漪涟。	Shàng zè suì rì yuè, xià zhè kuáng yí lián.	Slivers of sun and moon sheering away above, and wild swells walled in below,

⁴³ Translation taken from Hinton, *The Late Poems of Meng Chiao*, 29 - 29

Table 7 (cont.)

Section 4:

漠漠涎雾起，断断涎水光。 Mò mò xián wù qǐ, Arid froth raising boundless mist, froth all
kěn kěn xián shuǐ guāng. ablaze and snarling, snarling...

Sections 5 and 6:

上天下天水... Shàng tiān xià tiān shuǐ... Water all heaven-above, heaven-below,

In the first section of the piece, speech-based melodic motives in the strings are combined with woodwind breath sounds so that exaggerated tonal inflections of the words are heard at the same time as the whispered phonemes. The melody in section two is entirely derived from the language of the poem (illustrated in Fig. 12, below); it is harmonized in a similar way to material in 'Dust in Space', in that consonance and dissonance of harmonic sonorities are related to the character of consonants at the beginning of each syllable.

Fig. 12: Melody derived from Chinese tonal inflections in 'Laments of the Gorges' bb. 60 - 73

60

sān xiá yī xiàn tiān sān xiá wàn shéng quán shàng zì

suì rì yuè xià zhì kuáng qí lián

In section four, melodic brass motives are again derived from the language of the poem. The horn and trombone imitate the tonal inflections of vowels in the half-line 'Mò mò xián wù qǐ' (translation above) in bars 126 - 129. Like in 'Lēopsong', consonant-like timbres punctuate the melody; in this case, flutes colour the brass lines with fricative-like breath-sounds. The second half of the line, 'kěn kěn xián shuǐ guāng', is set in bars 132 - 134, in the same manner. The characters

断断 (kěn kěn), translated as 'Snarling, snarling' by Hinton, can be more literally translated as 'gnashing'. The onomatopoeic impact of the phoneme [k] from 'kěn' is heightened by the simultaneous sounding of the anvil and whip, which also simulates the gnashing of giant teeth.

I used the same '*sprechstimme*' technique to create melodic material for 'Other world which no-one owns...'. The muted second violin solo in bars 109 - 123 is a straight setting of Lǐ Bái's 'Mountain Question and Answer', with no deconstruction or rearrangement of words. The character of the melody reflects the character of the poem, as I imagine it would sound when read by its hermetic narrator - calm and gentle, with patient pauses in between phrases. Dynamics, bowing techniques and glissandi heighten the speech-like nature of the violin melody by imitating consonant timbres.

Fig. 13: Instrumental 'setting' of the first two lines of Lǐ Bái's 'Mountain Question and Answer' in 'Other world which no-one owns...', bb. 109 - 115

The musical score consists of two staves of music in treble clef. The first staff (bars 109-112) has a 2/4 time signature and contains the lyrics: Wèn yú hé yì qī bì shān. The second staff (bars 113-115) has a 5/4 time signature and contains the lyrics: xiào ér bù dá xīn zì xián. The score includes various dynamic markings such as *mp*, *p*, *pp*, *mf*, *ff*, and *pp (sub.)*. It also features performance instructions like *m.s.p. noise* and *p.s.p.*, and technical markings such as *5*, *3*, and *8^{va}*. The lyrics are written in pinyin with horizontal lines underneath each character to indicate the melodic contour.

The viola punctuates the above melody with consonant-like attacks and fricative-like, *sul ponticello* noise. An outline of where each line of the poem appears in the piece is shown below, with a transliteration and my own line-by-line translation of the Chinese characters:

Table 8: Lines from Lǐ Bái's 'Mountain Question and Answer' in 'Other world...' ⁴⁴

bb. 107 - 112	問余何意棲碧山	Wèn yú hé yì qī bì shān	You ask me why I wish to dwell on the emerald mountain;
bb. 113 - 115	笑而不答心自閑	xiào ér bù dá xīn zì xián	I smile but do not answer - my heart is free of care.
bb. 116 - 119	桃花流水杳然去	táo huā liú shuǐ yǎo rán qù	Peach blossom is carried far away on the flowing water.
bb. 119 - 123	別有天地非人間	bié yǒu tiān dì fēi rén wèi	I have my own heaven and earth, apart from the human world.

8.3. Spectral techniques used in 'Laments of the Gorges'

As well as the speech-based melodies described above, I created vocal and speech-like materials in 'Laments of the Gorges' by using spectral techniques. My methods are based on research into instrumental speech synthesis by Thomas Hummel, Jonathan Harvey, Peter Ablinger and Clarence Barlow.⁴⁵ I extracted two two-second-long samples from a recording of the Gyuto Monks (a group from Tibet), which comprised onsets of overtone chants sung by one individual monk; I wanted to orchestrally resynthesize a human vocal sound that recalled an animalistic roar in section four of the piece, and vocal onsets in this style of overtone singing produced the exact timbre that I had in mind.

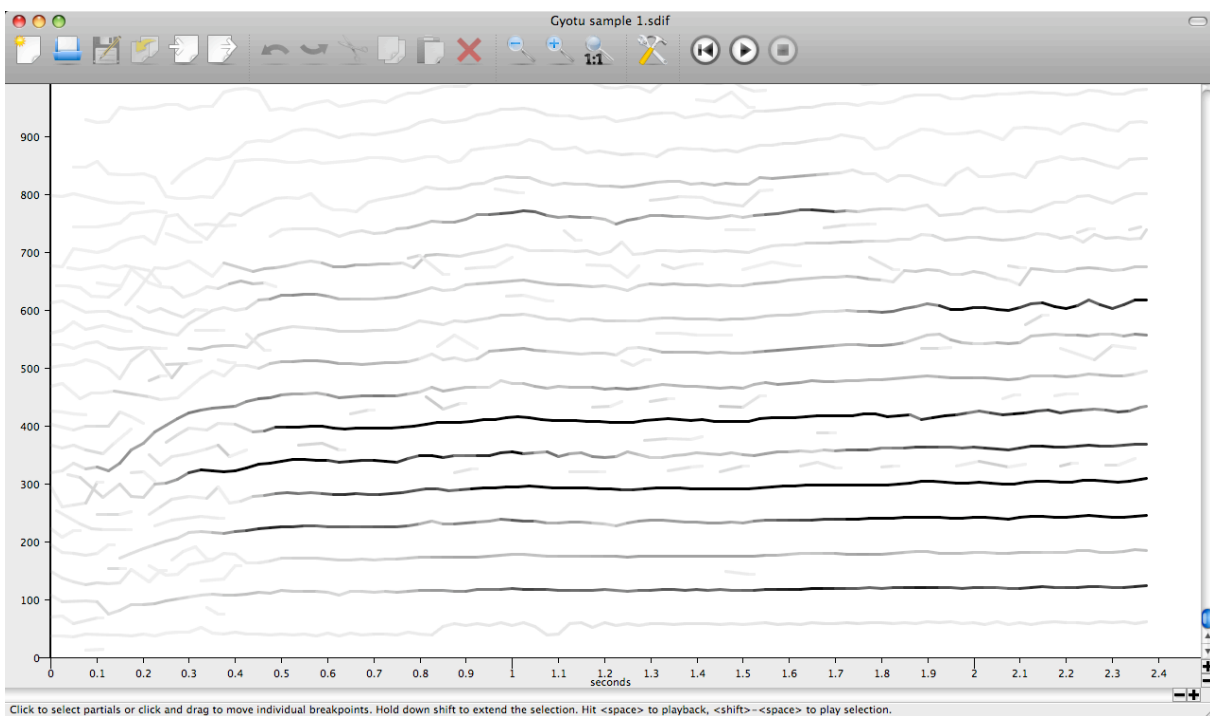
I then used the open source software 'Spear' to produce spectral analyses of each of the samples in order to create an orchestral resynthesis in which individual partial from the sound source were assigned to individual instruments of the orchestra. I filtered the analysis according to amplitude so that the number of partials was the same as the number of available orchestral instruments (excluding brass), and made a staff-notation map of frequency changes, focusing on the changes to each individual partial over time, rather than taking data from static analyses at

⁴⁴ Chinese text from 'Chinese Poems', online (accessed 30 September, 2011)

⁴⁵ See: Barlow, *On the Spectral Analysis of Speech for Subsequent Resynthesis by Acoustic Instruments*; Carpentier, Cont, Harvey, Nouno, *Making and Orchestra Speak*; and Hummel, *The Simulation of Human Voice Timbre by Orchestration of Acoustic Instruments*

specific time intervals. In order to select points at which to record frequency data for each partial, I identified the largest peaks and troughs along the frequency/time graph, reasoning that they would be the most perceptible changes and thus more significant to the perceivable character of the sound than frequencies at arbitrarily selected time intervals. The software I used is particularly suited to this method, because it plots time on the y axis and frequency on the x axis, using different shades of grey to indicate amplitude (see Fig 14, below). The absence of precise amplitude data was actually helpful rather than problematic, since musicians cannot produce dynamic changes according to specific numerical data. Assigning dynamics was thus relatively easy; light grey became *ppp* and black became *fff* etc.

Fig. 14: A sample FFT analysis of a Gyuto Monk singing, made using the software 'Spear'



The orchestrations that resulted from this process required extreme *divisi* in the strings (mostly one to a part, with only the very loudest partials doubled). The process of converting the frequency/time data into playable melismas required compromises on many levels. For example, orchestral resyntheses required a manual time-stretch of the Gyuto Monk samples, because changes to frequency data in the realtime samples were too fast to be replicated. I measured the distance (along the 'time' axis) between the frequency peaks and troughs I had designated as perceptually significant and converted the measurements into playable rhythms, using a fraction of a second instead of a whole second as my basic beat unit. Thus, one beat (at a tempo of 150 bpm)

was equivalent to four tenths of a second in the original sample. The conversion process of frequency data into staff notation necessitated further compromises. In most cases, I approximated of y-axis events to the nearest whole-number divisions of beats (up to and including ninths). In the cases of partials with particularly rapid frequency changes (which would be impossible to synthesize accurately) I emulated the behaviour of the partials using grace notes, trills and exaggerated vibrato so that the rapidness of the frequency changes, if not their precise durations would be imitated. I also rounded all the frequencies to the nearest quartertones. Where possible, I included glissandi between notes which followed the same contours as the frequency shifts of particular partials.

The first spectral resynthesis of a Gyoto Monk sample occurs in bar 119 of 'Laments of the Gorges'. This sample comprises a portamento on the syllable [wɔ], which comes to rest on a B \flat spectrum (on the vowel [u]), in which the second, fourth, fifth, sixth, seventh and tenth partials are substantially louder than the fundamental (illustrated in Fig 14, above). The second resynthesis (b. 144) is derived from a much more complicated sound sample, in which the monk rearticulates the vowel [u], creating a bizarre-sounding change of timbre - something like [uwɪtɹu] - before coming to rest on a B \sharp spectrum.

The resulting orchestrations did not sound very much like the original samples, but discernibility was not my key concern since there was no semantic content to the sounds. I had hoped to create a texture that sounded like the roar (and, in the case of the second sample, the grunt) of an otherworldly monster. I later refined the methods of spectral resynthesis developed for 'Laments of the Gorges' in 'Still Sky Bells'.

8.4. Spectral techniques used in 'Still Sky Bells'

I was more interested in discernibility in creating spectral material for 'Still Sky Bells' than I had been in 'Laments of the Gorges'; I wanted to juxtapose an actual sound with a spectral resynthesis of the same sound. The idea came from listening to Jonathan Harvey's 'Speakings', for orchestra and electronics, in which recordings of human vocalizations are heard just before, after, and at the same time as spectral resyntheses of them. I decided to derive spectral materials from the sound of a tam-tam - the orchestral instrument that sounds most similar to the large Biānzhōng bells the piece was about. I made a spectral analysis of a 14.5-second sample from a recording of a single *forte* tam-tam hit. The piece begins with a reversed resynthesis of the tam-tam hit, so that the first sounds heard are the last remaining audible partials at the end of the decay. In the score, an actual tam-tam hit is timed to coincide with end of the reversed sample (the moment when the recorded tam-tam was struck). The real decay of the tam-tam thus mirrors the reversed, instrumentally synthesized decay (although the synthesized version is necessarily slowed down). A shortened

version of the same reversed re-synthesis, which cuts out most of the decay, is used to mark a significant structural moment in bar 51. At the very end of the piece, there is a recapitulation of the reversed tam-tam resynthesis leading to another actual tam-tam hit. This time, it is followed by a resynthesis of the non-reversed sound decay, so that the decay of the final, actual tam-tam hit happens at the same time as an orchestrally resynthesized, slowed-down version of itself.

Although I used the same method of spectral resynthesis that I developed for 'Laments of the Gorges' to create the spectral material in 'Still Sky Bells', I aimed for a higher degree of precision in converting the frequency-change events into metric notation. The presence of the piano in the ensemble was useful because it allowed me to include a larger number of partials in my filtered sound sample - while a single-line instrument can only deal with one partial at a time, a pianist can deal with multiple partials as long as they are confined to equal temperament pitches and sustain without too much frequency and amplitude variation. In order to deal with the restrictions of tempered, non-sustaining instruments, I began the process of converting frequency data into musical notation by highlighting all of the partials that were close to equal temperament semitones and were not sustained with varying amplitude for long durations. As many of these partials as possible were then distributed between the harp, piano, tuned percussion, guitar and mandolin. The strings and woodwinds were assigned the partials that were closer to quartertones than semitones and/or rapidly changed frequency, and the partials that sustained for long durations. Whether or not the instrumentally re-synthesized tam-tam hit sounded like the actual tam-tam hit in the performance is debatable (I disagreed with the percussionist's interpretation of my dynamic markings anyway), but it does sound very similar indeed to the filtered sample from which it was derived.⁴⁶

⁴⁶ I did ensure that the original sample was taken from the same tam-tam that would be used in the performance.

8.5. Spectral 'timbral progressions'

In 'Laments of the Gorges', the two spectral resyntheses of Gyuto Monk samples end with prolonged orchestrations of frozen spectra, derived from single points in the original samples (effectively the end of each spectrally analysed portion). In both instances, the orchestrated spectrum becomes a background texture that is subjected to subtle adjustments. The process through which the resynthesis of the second sample (beginning b. 144) morphs into octatonic harmony is described in Chapter 7.3, above. The spectrum at the end of the first Gyuto Monk sample (b. 120), which accompanies melodic material in the brass and solo strings, undergoes a series of fleeting adjustments based on the timbral differences between vowel sounds. These 'timbral progressions' modify the orchestrated spectrum by varying the dynamic levels of different instruments in a manner based on amplitude variations of partials within a real spectrum. On an amplitude/frequency graph, the timbral difference between vowels can be observed as peaks, or 'formants'. A particular vowel can be distinguished by its formants, which always occur within the same frequency bandwidth, whatever the fundamental frequency of the spectrum. Using an open-source formant synthesizer ('Formant-1.0'), I created a staff-notation diagram showing the mid-point and bandwidth of formants for the vowels [ɑ] [ɔ], [i] and [u], with approximate amplitude data translated into musical dynamic markings. I then created formant-like peaks in the orchestrated B♭ spectrum by building dynamic contours that reflected the relative dynamic levels shown on the formant synthesizer. When vowel-formants were higher than the highest note in my orchestrated spectrum, they were added by the harp. Timbral progressions occur in bars 121, 123 and 125 in the score. Precise vowels were not discernible in the performance, but the timbral progressions did produce interesting, vowel-like orchestral sonorities.

8.6. White-noise or breath-sound speech synthesis

The method through which most of the Chinese poetic text is incorporated into 'Laments of the Gorges' grew out of experimentation with formant synthesis. As well as through adjustments in a pitched spectrum, vowels can be synthesized through a process of filtering white noise.⁴⁷ Having already planned to use breath sounds at the beginning and end of the piece, I decided to incorporate parts of the poem into the breath-sound texture by prescribing techniques for breath-sound production that emulated the timbres of whispered phonemes. Because breath sounds are noise-based, I was able to use this technique to emulate fricatives as well as vowels, laterals and nasals (which are difficult to synthesize using instruments). This required long sessions with

⁴⁷ See: Ablinger, *Quadraturen*, online (accessed 30 September, 2011).

instrumentalists, during which I tested variables that would affect the frequency content of breath sounds, such as fingering and mouth shape. The fastest and most efficient way to select breath-sound production techniques was to aurally compare the instrumental techniques with synthesized white noise phonemes. There are dramatic frequency differences between phonemes, as there are between breath sounds when fingerings are adjusted. Although it was intuitive rather than scientific (probably because it was intuitive rather than scientific), this process produced the most effective, perceptible form of language synthesis.

Flautists and brass instrumentalists can pronounce certain phonemes when blowing into their instruments. During my research sessions, I found that in most cases the pronounced phonemes were (unsurprisingly) the same as the phoneme that sounded. However, there were some instances in which a pronounced phoneme actually sounded like a different phoneme when modified by specific fingerings. For example, I found that an [ɔ], whispered into the flute, sounded like an [ŋ] in combination with the fingering for middle C. In the case of the clarinet, oboe and contrabassoon, I relied on adjustments in fingering, basic mouth shape, tonguing/slurring and direction of air flow to produce speech-like variations.

Generally, the breath-sound orchestrations comprise multiple instruments using their individually prescribed techniques to produce the same vowels at the same time - a form of doubling intended to balance the breath sounds with the rest of the ensemble. Sometimes, words are divided between instruments or between the woodwind and brass, particularly in the cases of phonemes that some instruments can approximate more effectively than others. Plosives are emulated by tongue-ram and slap-tongue techniques; in these instances, one or two instruments produce the plosive at the beginning of a syllable while another group of instruments produces the vowel that follows. Fingered glissandi (e.g. bb. 40, 41, 47 etc.) are sometimes used to produce rising or falling breath-sound contours that mimic the tonal inflections of the Chinese syllables. In combination with melodic material derived from the tonal inflections of Měng Jiào's poem, these phoneme-based breath sounds produced an eerie, anthropomorphic soundscape in which whole words, and fragments of words are clearly discernible; it is based on an imagined scenario in which a disorientated person thinks they hear the sound of the sound of ghosts whispering and a dragon breathing, amidst the hiss of turbulent water.

Appendix A

Poems used in the chamber opera 'Dust in Space', from 'The Collected Poems of Hanshan (Cold Mountain)', translated by Bill Porter:

Poems attributed to Hánshān:

欲識生死譬	Yù shí shēng sǐ pì	For an image of life and death
且將冰水比	Qiě jiāng bīng shuǐ bǐ	Imagine ice and water
水結即成冰	Shuǐ jié jí chéng bīng	Water freezes into ice
冰消返成水	Bīng xiāo fǎn chéng shuǐ	Ice melts back into water
已死必應生	Yǐ sǐ bì yīng shēng	What dies will surely live again
出生還復死	Chū shēng huáng fù sǐ	What lives is bound to die
冰水不相像	Bīng shuǐ bù xiāng xiàng	Ice and water do not harm each other
生死還雙美	Shēng sǐ huán shuāng měi	Both life and death are fine

誰家長不死	Shéi jiā cháng bù sǐ	Show me the one who does not die
死事舊來均	Sǐ shì jiù lái jūn	Death is always impartial
始憶八尺漢	Shǐ yì bā chí hàn	Remember the great towering man
俄成一聚塵	É chéng yī jù chén	Now just a single pile of dust
黃泉無曉日	Huáng quán wú xiǎo rì	The World Below knows no dawn
青草有時春	Qīng cǎo yǒu shí chūn	The green grass only grows in spring
行到傷心處	Xíng dào shāng xīn chù	Those who visit this sorrowful place
松風愁殺人	Sōng fēng chóu shā rén	The pine wind slays with grief

Poem attributed to Shídí:

三界如轉輪	Sān jiè rú zhuàn lún	The triple world is a turning wheel
浮生若流水	Fú shēng ruò liú shuǐ	Transient existence is like a flowing stream
蠢蠢諸品類	Chǔn chǔn zhū pǐn lèi	Teeming with a myriad creatures
貪生不覺死	Tān shēng bù jué sǐ	Hungry for life; unreconciled to death
汝看朝垂露	Rǔ kàn zhāo chuí lù	Consider the morning dew
能得幾時子	Néng dé jǐ shí zǐ	How long does it last?

Poem attributed to Fēnggān:

兀元沉浪海	Wù yuán chén làng hǎi	Sinking like a rock in the sea
漂漂輪三界	Piāo piāo lún sān jiè	Drifting through the three worlds
可惜一靈物	Kě xī yī líng wù	Poor ethereal creature
無始被境埋	Wú shǐ bèi jìng mái	Forever bound up in her plight
電光瞥然起	Diàn guāng piē rán qǐ	Until a flash of light shows
生死紛塵埃	Shēng sǐ fēn chén'āi	Life and death are dust, scattered in space.

Appendix B

Complete Old Occitan lyric composed by La Comtessa de Dia (c. 1160):⁴⁸

I. Estat ai en greu cossirier
per un cavallier q'ai agut,
e vuoil sia totz temps subut
cum eu l'ai amat a sobrier.
Ara vei q'ieu sui trahida
car eu non li donei m'amor
don ai estat en gran error
en lieig e qand sui vestida.

II. Ben volria mon cavallier
tener un ser en mos bratz nut,
q'el s'en tengra per ereubut
sol q'a lui fezes cosseillier;
car plus m'en sui abellida
no fetz Floris de Blanchaflor;
eu l'autrei mon cor e m'amor,
mon sen, mos huoills e ma vida.

III. Bels amics, avinens e bos,
cora.us tenrai en mon poder,
e que iagues ab vos un ser,
e qe.us des un bais amoros?
Sapchatz gram talan n'auria
qe.us tengues en luoc del marit
ab so que m'aguessetz plevit
de far tot so qu'eu volria.

I. I have been sorely troubled
for a knight that I had
and I want it known for all time
how exceedingly I loved him.
Now I see myself betrayed
because I didn't grant my love to him
whereupon I have suffered much distress
in bed and when I am clothed.

II. I would like my knight
to hold one night, in my arms - naked,
for he would be overjoyed
were I only serving as his pillow
for he makes me more radiant
than Floris of Blanchaflor;
I grant him my heart, my love,
my mind, my eyes and my life.

III. Fair friend, charming and good,
when will I hold you in my power,
lie beside you one evening,
and give you loving kisses?
Know that I'd strongly desire...
to have you in my husband's place
provided you pledged to do
everything that I desire.

⁴⁸ Original text taken from Bruckner, Shepard and White, *Songs of the Women Troubadours*: 10.
English translation by Robin Bier.

Appendix C

Diatribes against Engar-dug - Composite text from the Oxford Electronic Text Corpus of Sumerian Literature:

Segment A

1. engar-dug3 X lu2 lil2-la2 zag [...] dumu KA-a buluġ3-/
ġa2\
2. lu2 pe-el-la2 ni2-su-ub kuš sig10-ga X e2-ġar8-da
šub-a

3. engar-dug3 ze2-za nar-e-ne lu2 dim2?-ma nu-sag9
4. silim dug4-dug4 ur ŠID-ŠID-na lu2-u3 šu?-a /e3?
5. /e2\
6. is-ġab2 lu2-inim-ma teš2 nu-tuku di-še3 gu2 nu-
šum2-mu
7. ki-ma-an-ze2-er lu2 kal-e nu-zu saġ erin2-na sal-sal
8. lu2 ezen nu-KU šaġ2 lu-ġu-um-ta su3-a gu2 mu-un-
da-an-kud
9. eme ti bal niġ2-erim2-e ki aġ2 aġ-da X [...]
10. du14 mu2-mu2 keše2-da-ta e3-a in dub2-/dub2\
11. ur-saġ gub-be2 šu-bi-še3 la2-a tug2-da [...]

12. engar-dug3 gu-du keše2 eme ĤAR dim2-ma a-ġa-X
[...]
13. lu2 X nu-tuku kun ka-bi-še3 šub-ba niġ2 ni2-bi nu-X
14. eġ3 eġeġe e-sir2 daġal-la lu2 /nam\
15. inim sig10-sig10 umuš dim2-ma-na sig ka tar-re-a
bal-bal
16. lu2-ra gala muš-laġ4-e dub2-dub2 mu pi-il nar-e-ne
17. ur gu3 de2 ġišza3-mi2-a nu-ġal2 gu3-«ġiš»kiri6 de2-
de2
18. KU-KU-uš KA-KA gu2-ni saġ ZI e2 sa ab-la2-e
19. a2 al-aġ2-e X [X] ġal2 erin2 ab [...]dar
20. X-bi ka lu2 /DI IG X nu-un-na-dug3
21. [X] KA AN ġul-še3 X bal-bal X

Segment A

1-2. Engar-dug,, fool,, child raised in
....., disgraced man, madman leather,
dropping from a wall!

3-11. Engar-dug, croaker (?) among singers, a
man without good judgment, braggart,, a
man! -- open (?) the house, I have a quarrel
with you! In appearance a monkey, a rogue, a
witness without shame, not accepting a verdict, a
slippery place which respected men avoid,
despising (?) the leader of the work-force, a man
who does not a festival, a pig spattered with
mud,! Loving crosstalk and deceit,,
having got stuck into a quarrel he coming
out mouthing insults. A warrior on duty but
holding back,

12-21. Engar-dug, blocked at the anus,
speech, vomit (!) A man without, a tail
stuck in its mouth,, limping cripple who
people in the broad streets! Choosing words
carefully, weak, bragging and constantly shifty in
his advice and counsel, the lamentation
priest and snake-charmer, a disgraced
reputation among the singers, a dog not
producing sound from the lyre but emitting a
battle-cry!, he sweeps (?) the house. He
gives instructions,, and does not speak to
....., turning to evil

[unknown no. of lines missing]

(Engar-dug composite text - cont.)

Segment B

1. [...] ġišĠIRI3-na [...]
2. na-an-ga-ma nu-zuġ šeš-a-na a la-ba-ši-ak
3. kar ħe2-en-du3 tilla2 iri X ħu-mu-ni-in-TUG2-TUG2
4. pa-aġ2 ħe2-en-ze2 lu2 abula [...] ġiškim-bi ħu-mu-un-X
5. ur5-ta ki na-me-še3 nam-ba-DU en-nu-uġ3 [...]

6. engar-dug3 šir3 kug-zu mu-til nam-maġ-[zu ...]
7. in-zu sila daġal ba-ni-in-[...] lul-zu pa bi2-i-[e3]
8. X /lu2\ igi saġ5 mengar-dug3 KA gud? [...]
9. [...] darmušen-gin7 X [...]
10. [...] /da\ muš-laġ4 [...]
11. [...] KA [...]
12. [...] X NA X [...]

Segment B

- 1-5. In his, a thief from his brother, he provides no water whatsoever. Whether a quay is built, whether he the town square, whether he pierces his nostrils (?), whether the gatekeeper the sign -- thus he never goes anywhere, the guard.

- 6-12. Engar-dug, your holy song is finished, your greatness, your insults the city squares, your lies are made obvious!, Engar-dug,, like a francolin,, the snake-charmer 2 lines fragmentary

- [unknown no. of lines missing]

Appendix D

'The Ruin' - Old English text from The Exeter Book (Reprinted in Mitchell and Robinson, 2007: 266 - 267):

Wrætlic is þes wealstan, wyrde gebræcon;
burgstede burston, broснаð enta geweorc.
Hrofas sind gehrorene, hreorge torras,
hrimgeat berofen, hrim on lime,
scearde scurbeorge scorene, gedrorene,
ældo undereotone. Eorðgrap hafað
waldend wyrhtan forweorone, geleorene,
heardgripe hrusan, oþ hund cnea
werpeoda gewitan. Oft þæs wag gebad
ræghar ond readfah rice æfter oþrum,
ofstonden under stormum; steap geap gedreas.
Wonað giet se ...num geheapen,
fel on
grimme gegrunden
scan heo...
...g orponc ærsceaft
...g lamrindum beag
mod mo... ...yne swiftne gebrægd
hwætred in hringas, hygerof gebond
weallwalan wirum wundrum togædre.
Beorht wæron burgræced, burnsele monige,
heah horngestreon, heresweg micel,
meodoheall monig mondreama full,
oppæt þæt onwende wyrd seo swipe.
Crungon walo wide, cwoman woldagas,
swylt eall fornom secgrofra wera;
wurdon hyra wigsteal westen stapolas,
brosnade burgsteall. Betend crungon

(The Ruin - cont.)

hergas to hrusan. Forþon þas hofu dreorgiað,
ond þæs teaforgeapa tigelum sceadeð
hrostbeages hrof. Hryre wong gecrong
gebrocen to beorgum, þær iu beorn monig
glædmod ond goldbeorht gleoma gefrætwed,
wlonc ond wingal wighyrstum scan;
seah on sinc, on sylfor, on searogimmas,
on ead, on æht, on eorcanstan,
on þas beorhtan burg bradan rices.
Stanhofu stoda, stream hate wearp
widan wylme; weal eall befeng
beorhtan bosme, þær þa bapu wæron,
hat on hrepre. þæt wæs hyðelic.
Leton þonne geotan
ofer harne stan hate streamas
un...
...þæt hringmere hate
þær þa bapu wæron.
þonne is
...re; þæt is cynelic þing,
huse burg....

Appendix E

Sievers' Types - named by letter, in descending order of frequency.

Type		Modern English illustration (from Mitchell and Robinson, 2007: 161)
A	/x(xxxx)/x	Anna angry
B	(xxxx)x/x(x)/	And Bryhtnoth bold
C	(xxxxx)x//x	In keen conflict
D	/(xxx)^x	Drive Don backwards
E	^x(x)/	Each one with edge

/ denotes a primary stress

\ denotes a secondary stress

x denotes an unaccented syllable

Each of the six types may comprise additional unstressed syllables, up-to and including the number shown in parentheses.

For a detailed summary of Old English poetic formulae, see Mitchell and Robinson, 2007: 161.

Appendix F

Table illustrating my analysis of selections from 'The Ruin':

Stress; Alliteration	Half line 1 Old English	Half line 2 OE	Half line 1 Modern English	Half line 2 ME
1. AA; w	/ x x x / x Wrætllic is þes wealstān;	/ x x / x wyrde gebræcon	Wondrous is this stone wall	fates broke it
2. AE; b	/ x x x / \ x burgstede burston;	/ \ x x x / broснаð enta geweorc.	smashed the city streets;	the work of giants decays.
3. DA; hr	/ x x / x Hrōfas sind gehrorene,	/ x / x hrēorge torras,	Roofs are fallen,	the towers ruinous,
4. AA; hr	hrīmgæat berofen / x / \ x x	hrīm on līme / x x x / \ x x	the frosty gate ravaged,	frost is in the lime,
5. AA; sc	scearde scūrbeorge / x / x \ x x	scorene, gedrorene, / x / x	chipped roofs...	shorn, fallen,
6. DA; -	ældo undereotone.	Eorðgrāp hafað	undermined by old age.	Earth's grasp possesses

7. AA; w	/ x / x waldendwyrhtan,	x ^l / ∪x x x / ∪xx forweorone, geleorene,	the master builders,	withered, departed,
8. AC?; h	/ x x / x heard gripe hrūsan,	x / / (x?) op hund crēa	the strong embrace of the soil,	until a hundred generations...
9. AB; w	/ x x x / x werþēoda gewitan.	x x / x / Oft þes wāg gebād	of the people passed away.	Often this wall,
10. AA; r	/ x x / x ræghār ond rēadfāh	/ x x x / x rīce æfter ōþrum	lichen-grey and stained with red,	experienced one reign after another,
11. AD; st	x ^l / x x x / x ofstonden under stormum;	/ / x \ stēap gēap gedrēas.	but remained standing under storms;	high, wide... it collapsed.
21. DA; b	/ x x / \ Beorht wæron burgræced,	/ x x / ∪x x burnsele monige,	Bright were the city buildings,	many the bathing halls,
22. DA; h	/ / x \ hēah horngestrēon,	/ x x / x hereswēg micel,	high the abundance of gables,	great the noise of the multitude,
23. AE; m	/ ∪ x x / x meodoheall monig	/ \ mondrēarna full,	many a meadhall	full of festivity,
24. AA; w	/ x x x / x opþæt þæt onwende	/ x / x wyrð sēo swīþe.	Yet the mighty	fate changed that.

25. AA; c	/ x x x / x Crungon walo wīde,	/ x /x x cwōman wōldagas,	Far and wide the slaughtered perished,	days of pestilence came,
26. DA; s	/ / x \ swyt eall fornōm	/ x x / x secgrōfra wera;	death took away	all the brave men;
27. AA; w	/ x x x / x wurdon hyra wīgsteal	/ x /x x wēstenstapolas,	their battlements	became deserted places,
28. AA; b	/ x x / x brosnade burgsteall.	/ x / x Bārend crungon	the city decayed.	The re-builders perished,
29. AB; h	/x x / x hergas tō hrūsan.	x x x / x /x x Forpon þas hoƿu dreorgiað	the armies to earth.	And so these ruins grow desolate
30. AA; t	x x / x / x ond þæs teaforgeapa	/ x x / x tigelum sceadeð	and this red-curved roof	parts from its tiles
31. ED; hr	/ \ x / hrostbeages hrof.	(...)	of the ceiling-vault.	

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