A Portfolio of Compositions

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Acknowledgments

My heartfelt thanks to:

my first supervisor Professor Piers Hellawell for his unfailing encouragement, guidance and rigour; my second supervisor Dr Simon Mawhinney for his availability, and all the School of Creative Arts at Queen’s University, Belfast;

the following artists for their most committed engagement in the championing of my work in performances and recordings: The RTÉ ConTempo Quartet; Adrian Mantu; Colette Delahunt; Robert Plane and Mary Dullea; the Royal Quartet; Tim Williams and the Psappha Ensemble; Dr Aylish Kerrigan; Dearbhla Collins; Óire Mulvey Mihai Cucu; Andy Akiho and Ian Rosenbaum; the Walled City Music Festival in Derry; Charles Hazlewood and the BBC Concert Orchestra; Carmel Comiskey; Dave McCann; Fergus Sheil, Dr James MacMillan, Matthew Hamilton and the BBC Singers for their insights on choral writing; Bruce Arnold for sharing his knowledge of the work of James Joyce; Dame Judith Weir for her insights on composition;

the following organisations for their support and dissemination of my work: Dr Peter Moran, Dr Jennifer McCay and the Association of Irish Composers; Evonne Ferguson, Jonathan Grimes, Karen Hennessy and Caitriona Honohan of the Contemporary Music Centre in Dublin; Rev. Ian Adams and Canterbury Press for permission to use the poem Skimming Stones; my colleagues in the Music and Music Education departments at Mary Immaculate College, Limerick for their innovative and committed collaborations; Louise Donlon, Gillian Fenton and Jay Kavanagh of the Lime Tree Theatre and Belltable Arts Centre; the Arts Council of Ireland and MIC Limerick for their support of my work; Karen Dervan and Lioba Petrie of the Kaleidoscope concert series; the most helpful staff of the libraries of Queen’s University, Belfast and at the Dublin Institute of Technology Conservatory of Music and Drama; Gail Henry and all at RTÉ LyricFM for their support in recording and broadcasting my work;

His Excellency President Michael D. Higgins and Sabina Higgins for the invitation to perform excerpts from Pomes Penyeach at Áras an Uachtaráin; Dr Kerry Houston, Dr Gráinne Mulvey, Dr Mary Lennon, Dr Lorraine O’Connell, David Brophy, and
all my supportive colleagues at the Dublin Institute of Technology Conservatory of Music and Drama; Dr Helen Lawlor; Rev. Sonia Gyles; Vincenzo Scerbo and his inventive colleagues at Salvi harps; Dr Lorraine Byrne Bodley for her advice; Kate Manning, Áine Mulvey, and Miriam van der Molen for their proofreading; and my husband Ray Comiskey for what is unquantifiable.

A.M.D.G.
A Portfolio of Compositions
by Anne-Marie O’Farrell

Abstract

The works in the attached portfolio address a number of compositional focal points: to bring together diverse strands of musical influence into sustained musical argument, across various large-scale media; to enlarge and explore the musical language of the harp, including the lever harp; and to integrate received materials into new music so as to create a different context while acknowledging musical inheritance. These combine with the exploration of inherent instrumental colour within my approaches to rhythm, harmony, melodic transformation, structure and the use of text to demonstrate the development of my compositional style during my PhD study. The commentary opens with three contextual chapters which outline my compositional approach and which discuss prominent aspects common to the works attached. These chapters are ‘My Main Compositional Concerns’, ‘Use of Received Materials’ and ‘Writing for Voice’. Commentaries on individual works follow, providing discussion of dimensions of the pieces not addressed in the opening chapters. Two appendices are given at the end of the portfolio. The first is an orchestral piece, Rann Dò Trí which won the BBC Baroque Remixed composition competition in 2013: it is included to demonstrate a more overt of use of received materials in a piece which at times resembles an arrangement of baroque material, in contrast to the concealed use of borrowed materials in the harp piece, Amplétude. The second item in the appendix is an alternative instrumentation of ‘A Flower Given to My Daughter’ from Pomes Penyeach using accompaniment of cello and harp instead of two violins. The reason for its inclusion is the exploration of a wider range of sonorities, particularly from lower registers, and the resulting provision of upper harmonics. Below is a list of the works in the portfolio. Recordings of the works are provided and these are listed on page vi. Most of the works are performed by musicians and singers, and in cases where such recordings are not available, midi recordings are included.
List of works in the portfolio:

*Pomes Penyeach,*
  song cycle for soprano, string quartet and harp 2012 c. 35 minutes

*Orb of Earth to Arch of Sky,*
  cantata for mixed choir 2014 c. 25 minutes

*Spire* for orchestra 2015 c. 11 minutes

*Amplétude* for pedal harp 2011 c. 7 minutes

*Chromatétude* for lever harp 2015 c. 4 minutes

*A Score and Thirteen* for B flat clarinet and piano 2013 c. 5 minutes

*In Mary’s Eye* for solo cello 2015 c. 7 minutes

Appendix 1: *Rann Dò Trí* for orchestra 2013 c. 5 minutes

Appendix 2: *A Flower Given to my Daughter* (sop, vl, hp) 2014 c. 2 minutes
List of accompanying recordings:

*Pomes Penyeach*: performed by the RTÉ ConTempo Quartet (Bogdan Sofei, Ingrid Nicola, Andreea Banciu and Adrian Mantu), soprano Colette Delahunt and harpist Anne-Marie O’Farrell. Live recording from the Belltable Arts Centre, 24 February, 2016, as part of the Kaleidoscope nationwide concert series.

‘Skimming Stones’ from *Orb of Earth to Arch of Sky*: performed by the BBC Singers conducted by Matthew Hamilton, from a BBC Radio 3 broadcast of a live performance in St Paul’s Church, London on 28 January, 2014.

*Orb of Earth to Arch of Sky* (complete): midi recording.

*Spire* for orchestra: midi recording.

*Amplétude*: archive recording from 2015 performed by Anne-Marie O’Farrell.

*Chromatétude*: archive recording from 2015 performed by Anne-Marie O’Farrell.

*A Score and Thirteen*: workshop recording performed by Robert Plane, clarinet and Mary Dullea, piano, in Queen’s University Belfast on 20 March, 2013.


*Rann Dó Trí*: live BBC Radio 3 broadcast from the Roundhouse in London, performed by the BBC Concert Orchestra, conducted by Charles Hazlewood on 11 March, 2013.

‘A Flower Given to my Daughter’ from *Pomes Penyeach*: RTÉ LyricFM broadcast (25 July 2016, 18 October 2016 and 2 January 2017), performed by soprano Colette Delahunt, Anne-Marie O’Farrell on harp and Carmel Comiskey on cello.
1. My Main Compositional Concerns

In an interview with Evonne Ferguson of the Contemporary Music Centre at the 2013 New Music Dublin Festival, Irish composer Kevin O’Connell was asked what his favourite music was.¹ He replied quite simply, ‘The music I have written myself. Otherwise I wouldn’t have written it’. This gets to the heart of why we composers write music: while acknowledging the diversity of different composers’ possible motives, including availing of timely opportunities, a desire to collaborate, or many other reasons including economic ones, nevertheless many of us also wish to create sounds which, as far as we are aware, have not yet existed but which we would like to bring into being. Imagination plays a central role. Naturally in addition to this, the resulting music is marked out by particular influences, experiences and preferences. Integral to the compositional process over the long term is technical and musical development, response to artistic possibilities, and the decision whether to engage with opportunities of situation and collaboration. The way in which these elements combine to form my own identity as a composer will be outlined in the following discussion of my approaches to composition and my primary compositional concerns.

In his article, “‘I’m a Composer”: “You’re a What?”’ Frank Corcoran addresses the difficulty of defining the music one writes, and the dilemma of defining one’s work by negative statements which outline what it is not.² He goes on to outline the particular situation of an Irish composer, which includes the absence of an organic heritage from European masters (something which strongly affects the culture and context in which a composer based in Dublin operates), and cites many aspects which also apply to me, even though he was writing in 1982. In my own work, these include the occasional setting aside of Irish traditional influences; the opaque threshold between composer and arranger; and the work that needs to be done to equip and facilitate general audiences to engage with much ‘serious’ music of the twentieth and twenty-first centuries.

¹ Interview of Kevin O’Connell by Evonne Ferguson as part of the New Music Dublin Festival, John Field Room NCH, 1–3 March 2013.
In relation to my own music, the most straightforward definitions involve elimination: my music is not minimalist, but I admire and am to some extent influenced by the work of John Adams and Steve Reich. My music is primarily for secular purposes and settings, but at times I also interweave religious references to express theological ideas, in the shadow of Arvo Pärt and James MacMillan. My use of systems of pitch organisation to create unity of sonority within a work is an amalgam of influences of major compositional movements in the last hundred years, from the second Viennese school to total serialism and to more flexible uses of principles inherent in these techniques. Notwithstanding this, my approach to pitch and harmony shows a preference for oblique hints of tonality. Therefore passages in which there is no sense of magnetic pull to one pitch/chord or another are seldom found, but this does occur for example, in bars 24–37 of Chromatétude for solo lever harp. Further explanation of my various approaches to pitch and harmony is outlined in the individual commentary chapters on separate works.

A chart by Ihab Hassan entitled ‘Schematic Differences between Modernism and Postmodernism’ provides a range of points of resonance for these two broad movements. Those from his list of modernist traits which are consistent with my compositional approach include the following: creation/totalisation, purpose and finished work, form and design, hierarchy, synthesis, symbolism and transcendence, genre/boundary, determinacy. Since my composition sets out to achieve a pre-defined musical outcome in performance, and since concepts are employed to a musical end, rather than solely for the expression of an idea, this suggests that in this respect, I am not a postmodern composer. The prioritisation of Hassan’s traits of modernism listed above is evident throughout my compositions, and is made apparent in the individual commentaries which follow.

Use of received resources is one of the tools I employ, not only on occasion as a point of ignition at the outset of the compositional process, but for a variety of other reasons. In some cases it is to explore a relational connection with performers or commissioners, in others to resonate with a place where a work will be performed or the meaning behind an event featuring the premiere, or as in the case of ‘Nightpiece’ in Pomes Penyeach, as a response to the meaning of the poem itself. In

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my use of such resources I generally seek to retain their recognisability while simultaneously transforming them into new material, by revoicing them in an unfamiliar tonality (for example, *Faigh an Gléas* in *Chromatétude*), or by rhythmic contraction and intervallic alteration (as in *Spire* as played by the first flute in bar 22). In the case of *Amplétude*, however, references to received material are inaudible because they are used to create pitch resources and metric structures which act as a scaffolding for the new material (with the exception of bars 42–43 in which Lex van Delden’s *Notturno* is quoted). A more thorough discussion of this approach in my composition is in chapter three, ‘Use of Received Materials’.

**Choice of resources**

I have a strong preference for the use of live instruments and voices in my work. My use of technology is applied instead to matters of notation, recording, editing and publicity. The reference to ‘finished work’ above for me also includes performance, in that my work is geared towards the final goal of a live musical performance, as opposed to sound for exhibitions, looped online streaming or other platforms. This influences the nature of my collaborative work. My choice of resources is arrived at by a combination of writing for associates who are likely to perform my work at a suitable opportunity (soprano Colette Delahunt with *Pomes Penyeach*), contexts where a need for particular repertoire has been identified (solo instrumental repertoire), and engagement with particular opportunities when they arise (as in the call for scores for mixed choir issued by the Contemporary Music Centre in Dublin in January 2013 which led to a collaboration in London with the BBC Singers on ‘Skimming Stones’ from my choral cantata *Orb of Earth to Arch of Sky*).

**Context and concept**

As a performer, composer and audience member, I am persuaded by the immediacy and power of a live performance. I am also persuaded by the practical necessity to observe limitations imposed by circumstance, in order to bring about a successful performance. Therefore, while my works do express and explore a variety

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of concepts,\textsuperscript{5} I also require them to be a piece of art which is enjoyable to perform (including at the premiere) and stimulating to revisit for further in-depth study. This indicates the role and influence of performance activity on my composition. I believe that while a composer needs the freedom to explore and experiment, the ability to write to command for whatever may be required, from a hymn to an orchestral work, is also essential for a working composer. In my composition, which is almost always for a concert setting, any experimentation involved takes place during the composition and preparation of the work, and in some instances in collaboration with musicians during a rehearsal, but experimentation is never intended to be an element of the live performance of my music. In general the length of my individual works is shaped by the context of its premiere, commission or collaboration. This is often influenced by programming considerations, but I nevertheless remain open to the possibility of more flexible time spans for pieces according to opportunities that arise.

My activity as a performer has influenced some musical priorities, including that of tried and tested programming principles, requiring contrasts of speed, volume and timbre. I am also conscious of physical limitations of players, of optimum placement of virtuoso passages, of stamina and pacing issues. This is reflected in the placing of the string quartet movement, ‘Flood’, towards the middle of the song cycle \textit{Pomes Penyeach}. Furthermore, having worked with fellow-performers, I am acutely aware of the correlation between the level of detail required in preparation and available rehearsal time. In certain situations it is necessary for the composer to cut one’s cloth accordingly, in order to achieve a desirable outcome for the composer, the musician, and the listener.

A further dimension of my compositional activity is my interest in and connection with sacred contexts, through which I have examined the relationship between music performance in the church and in the concert hall.\textsuperscript{6} I find it satisfying to develop the exploration of sacred representations in concert hall settings, while also composing concert music suitable for performance in a church, occasionally also

\textsuperscript{5} \textit{Chromatétude} for solo lever harp combines the exploration of serialist principles with paraphrase, while \textit{Spire} for orchestra uses a family of chords to express sound colours suggestive of terms of inner renewal.

in the context of worship. References to the figure of Mary in the solo cello piece *In Mary’s Eye* and to the nine gifts of the Spirit in *Spire* for orchestra are ways in which these interests are woven into the musical content and fabric. This approach is similar to that of James MacMillan whose *Seven Last Words* for mixed choir, while commissioned for television, is a concert work, while its counterpart by Haydn was commissioned for the movements to be placed between sermons in a liturgy.

**Compositional development during PhD years**

The PhD process required a re-evaluation of established compositional habits which I was encouraged to reassess. This began a new process of querying my work. For example, one habit was of writing patterns, and over-relying on them without sufficient alteration, while another was of writing material which sits ‘under the hand’ on a given instrument without questioning if it was precisely what I wanted to say, and if it would be possible to say it while also employing greater interest and transformation of the chosen patterns. The type of evolution which then occurred can be found in bars 7–10 of ‘Alone’ in *Pomes Penyeach*, in which the small variations in pattern (Ex. 1.1) anticipate and suggest the atmosphere in the lines ‘The shorelamps in the sleeping lake/Laburnum tendrils trail’.

Ex.1.1. ‘Alone’ from *Pomes Penyeach*, bars 7–10.

As time progressed during my PhD, opportunities for performance became more varied, with greater opportunities to work with larger, well-established groups, ultimately leading to almost full-time employment as a composer. Engagement in composition at postgraduate level has encouraged me to address larger scale compositions, whether for greater forces, or longer works in which a musical

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7 Concert music in this context is intended to mean music which is not specifically for worship, for congregational participation, or written in order to fill gaps of time to aid liturgical movement.

argument is given the opportunity to flourish and be sustained. Prior to this, much of my composition comprised shorter works, or collections of movements. The accompanying portfolio of works, particularly *Orb of Earth to Arch of Sky* for mixed choir and *Spire* for orchestra, demonstrate the handling of larger forces, more detailed and rigorous compositional systems than before, and the development of longer musical discourse.

I am now more particular about what I write, and have been encouraged to hone more finely the skill of composing (and notating) in such a way as to eliminate unnecessary discussion and queries during rehearsal time.

My performers are my first audience. In his autobiography, *Words without Music*, Philip Glass reminds us that a work of art does not exist independently, and referring to the work of John Cage, he points out the importance of the role played by the listener in a piece of music.9 My relationship with those who hear my music is influenced by experiences of polite but puzzled reception given to performances of new music. In my approach to composition I am struck by the ghettoising of new music into isolated events with limited audiences, comprising mostly composers.

While my compositional voice may contain elements of the past, I seek freshness, making music which was not there before, but which in the first instance communicates what I have to say.

In conclusion, my composition is shaped by a myriad of influences, whether they are composers past or present; my other musical activities such as performance; music education,10 and church involvement; or the coinciding of circumstances and opportunities as they present themselves with particular creative impulses. The treatment of and response to those impulses is examined in the forthcoming chapters concerning the craft of my composition: ‘Writing for Voice’, ‘Use of Received Materials’, and individual commentaries on each work.

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10 Together with Dr Lorraine O’Connell, I was awarded a DIT Teaching Fellowship to facilitate research in this area, which was presented at the Arts in Society Conference in Budapest in 2013 and the European Association of Music Teachers in Schools (EAS) Conference in Nicosia in 2014. The findings have recently been published in our chapter, ‘Educating Third Level Music Students in and for the Community: A Composition Project with Primary School Children’ in *European Perspectives on Music Education Volume 4, Every learner counts: Democracy and Inclusion in Music Education* (Vienna: Helbling, 2015).
2. Writing for Voice

Introduction: primary concerns

As a composer who writes for singers who may not specialise exclusively in contemporary music, I seek to affirm the presence of new music in mainstream contexts— for example, within a vocal recital which may include repertoire from other centuries, or even at events which are not confined to the discipline of music. My writing for voice sets itself apart from the ‘new vocality’ movement initiated in the mid-twentieth century by Cathy Berberian, not only in so far as I exploit the existing and more generally characteristic qualities of the classically trained singing voice, but also in my provision of a completed score to the singer, without requesting the performer to collaborate in any compositional processes in the formation of the work. Herzfeld-Schild acknowledges the significant role played by Berberian herself as interpreter and artist in the creation of works composed for her in the context of new vocality. My preference on the other hand is—notwithstanding the possible suggestion by the artist of minor adjustments to a composition—to present the performer with a finished score, which is capable of being used by any singer of the same voice type. It is usual for composers to write for a particular singer, and to collaborate on the selection of texts at an early stage, and in these respects, I seek to highlight the particular strengths of those singers with whom I have worked more closely. I place considerable importance on the audibility of the text in my vocal writing: not only does a great deal of consideration go into their choosing, but they are the impetus for the resulting music and creative decisions. In the case of each of the two larger vocal works in the portfolio, a group of poems was chosen as a unifying element, either because they were formed into a group by a single poet, as with *Pomes Penyeach*, or because collectively the group of poems created a richer context for a particular theme, namely spiritual awareness and inner peace as portrayed in the texts used in *Orb of Earth to Arch of Sky*.

This discussion focuses on the following key areas: the setting of text, including its audibility, word painting, structure of text, and notation of expressive

detail. Also later discussed are my handling of vocal issues including tessitura, pitching both for soloist and unaccompanied choir, and aspects of instrumentation in writing for solo or choral voices.

**Setting of text**

The very presence of text in vocal music, and the use of poetry in musical settings, create particular circumstances with which the composer must engage. In contrast to the tradition begun by the avant-garde movement in the 1960s, in which for example Berio’s *Sequenza III* exploits non-verbal sounds and extended vocal techniques while still using words, my preference for unfragmented poetry over disjointed text indicates my intention to use vocal and choral music as a vehicle for the images and meaning conveyed in the poetry.\(^\text{13}\) My approach to choral writing is also quite different, for example, from that of Irish composer Karen Power in her work, *Shape Me* (2012), in which she exploits consonants and unsung sounds, along with liberal use of quarter tones, and requires the choir to interpret as individuals rather than as a single entity.\(^\text{14}\) In my work, extended vocal techniques instead have a particular function and context, which is to illustrate the text without compromising its audibility. Such techniques are just one aspect of a wider palette of timbres at my disposal, rather than as something which takes priority over the more conventional ways in which a trained singer uses their instrument. Rather than make a feature of diverse usage of the human voice as is exemplified in John Cage’s *Aria* of 1958, I write for the singer who primarily uses the classically produced sound, occasionally adding extended techniques to satisfy my interpretative responses to the text.\(^\text{15}\)

Since, in the context of my vocal works, music is at the service of the selected text, various aspects of writing become more pertinent. These include audibility of the words, the more conventional approach to word painting, the reflection of the structure of the text in musical form, and the musical illustration of punctuation in the text.

\(^\text{14}\) Power, Karen: *Shape Me* as performed at a workshop by the BBC Singers, conducted by Fergus Sheil, at a Contemporary Music Centre choral music workshop in the National Concert Hall’s Kevin Barry Room on 24 March, 2013.
\(^\text{15}\) Cage, John: *Aria* (Frankfurt: Peters, 2001).
Audibility of text

Text itself lies at the heart of my approach to vocal writing: both its message and audibility are therefore of considerable importance. This is quite contrary to the approach taken, for example, by John Buckley in his *I am Wind on Sea* for solo voice and percussion, which is a setting of an ancient poem by Amerghin. The words of the text are fragmented into syllables, consonants or vowels and although they become a feature in their own right, the work is still a treatment of a particular poem, using both percussion and extended vocal techniques to capture sounds which evoke vivid images of nature in the poem. Since their dramatic expression dominates, the words themselves are only partially audible, unlike in my own settings. The following is an extract from the line, ‘I am boar ready for combat’ (Ex. 2.1).

Ex. 2.1. John Buckley, *I am Wind on Sea*.

My approach is more lyrical, since I place greater importance on the audibility of the poem as shown here (Ex. 2.2):

Ex. 2.2. ‘Tilly’ from *Pomes Penyeach*, bars 12–16.

In more conventional writing for voice, even when sung in English, it is sometimes customary to provide texts or surtitles for the audience. This is related both to the necessary adjustment of vowels in the upper register for the sake of vocal quality, and the presence of melismas in the contour of the line. Although syllabic writing may be more audible, it does not always suit the composer’s needs, as shown by the following expressive melismas (Ex. 2.3):

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16 Buckley, John: *I am Wind on Sea* for mezzo soprano, two woodblocks and tuned discs (Dublin: Contemporary Music Centre, 1987).
17 Ibid.
Ex. 2.3. ‘A Prayer’ from *Pomes Penyeach*, soprano, bars 41–46.

The long vowels in Ex. 2.3, compared with the emphasised effect of rolled Rs in the Buckley (Ex. 2.1), illustrate the difference in our approaches.

The syllabic writing in Gerald Barry’s opera *The Importance of Being Earnest* successfully illustrates the comic purposes achieved when words are set syllabically and densely, in both German and in English (Ex. 2.4).18

Ex. 2.4. Gerald Barry, *The Importance of being Earnest*, bars 216–225, Algernon.

On the other hand, James Wilson in *The Windhover* for soprano and clarinet makes no apology for using high pitches in syllabic writing on such vowels as ‘ih’[ɪ] and ‘ay’ [eɪ], described by Joan Wall as forward vowels.19 He composed this work for the vocally dextrous soprano Jane Manning, who is known for her clarity of diction in contemporary vocal music (Ex. 2.5 and 2.6).20

18 Barry, Gerald: *The Importance of Being Earnest* (London: Schott, 2010). In bars 427–453 of Barry’s opera, Lady Bracknell initiates a setting of Goethe’s *Freude, schöner Götterfunken* sung by five characters in rapid quavers, creating a densely worded texture. The same poem by Goethe is noted for its use by Beethoven in his ninth symphony.

19 Forward vowels require the forward placement in the mouth of the high point of the tongue with its sides touching the upper molars.


In choral writing the choice to prioritise audibility of text creates some textural obligations. These include the positioning of some material in the background in order to highlight the desired text in the foreground. It also places limits on the activity of those voices which are not singing the primary text or are in an accompanying role. The following excerpt from ‘Skimming Stones’ shows the primary text in the sopranos, while other voices create background colour with two motifs which recur throughout the movement (Ex. 2.7):

Ex. 2.7. ‘Skimming Stones’ from Orb of Earth to Arch of Sky, bars 256–258.
Word painting

The musical suggestion of images and sounds evoked in poetry naturally does not in itself require the use of extended vocal techniques, and in my work this is done for the most part through the use of the singing voice and, where applicable, through use of accompanying instruments. Ex. 2.7 above shows word painting in each of the voices with three layers of text. In the following example, Ex. 2.8, the sound of cattle hooves is suggested with the assistance of instruments by using *ricochet col legno* in bowed strings and a slapping glissando in the lowest register of the harp (Ex. 2.8).

Ex. 2.8. ‘Tilly’ from *Pomes Penyeach*, bars 30–33.

The vocal line of the above example illustrates a more traditional approach to word painting: on the words ‘brute’ and ‘hoofs’ the soprano’s darker, lower vocal colour is explored, while the melismatic figuration on the word ‘music’ enables her to show a very different colour in a higher range.²¹

In relation to Joyce’s word painting, *On the Beach at Fontana* contains much onomatopoeia, and so the very sound of the poetry captures sea noises and wind sounds. In my setting, these are amplified at various points in the piece by the cello playing behind the bridge *con sordino* unpitched (bars 1–2), the palm brushing the

²¹ The song cycle *Pomes Penyeach* was composed for soprano Colette Delahunt (www.colettedelahunt.com). While the composition of the cycle was not a collaborative process, aspects of range and suitability were discussed early in the rehearsal stages.
harp strings (bars 3–6), and glissandos of natural harmonics on viola (bars 20–21) and cello (bars 25–26).

Writing for unaccompanied choir presents different opportunities for word painting in addition to those exemplified in Ex. 2.7. In my choral cantata *Orb of Earth to Arch of Sky* body percussion is used for added colour, and in this example it is combined with agitated whispering (Ex. 2.9):

Ex. 2.9. ‘Sonnet: On hearing the *Dies Irae* sung in the Sistine Chapel’ from *Orb of Earth to Arch of Sky*, bars 31–32.

* S. A & B to slap chest with flat palm and whisper agitatedly

\[ \text{Musical notation} \]

\[ \text{Ex. 2.9} \]

Structure of text

Reflecting the structural elements of text, particularly of poetry, is something which presents the composer of vocal music with a range of choices. The very translation of the spoken syllabic rhythm into song is a significant transformation in itself, and the line-by-line shape, carefully crafted by the poet for a page of text immediately becomes something entirely different when it is used in a musical work.\(^{22}\) The shape of the poem’s meaning can be reflected in the musical trajectory of a movement, without necessarily mirroring line-to-line syllabic or rhyming

\[^{22}\text{A contemporary example of this is in Seamus Cashman’s recent epic poem, The Sistine Gaze, in which the layout of verse 80, (part 10, book II) takes the shape of a chalice as it evokes the earthy allure of the colours chosen by Michelangelo. Cashman, Seamus: The Sistine Gaze (Dublin: Salmon Poetry, 2015), 38.}\]
patterns. This is the case in my setting of Oscar Wilde’s Sonnet: On hearing the Dies Irae sung in the Sistine Chapel in which a musical portrayal of the atmosphere suggested by the words is of greater importance than expressing the structural linear patterns of the sonnet. In Joyce’s A Memory of the Players in a Mirror at Midnight, prime numbers are relevant, since there are seven lines in each verse, and the number thirteen is referred to early in the first verse: ‘Gnash the thirteen teeth your lean jaws grin with’. My response to this was to use the numbers seven, thirteen and other prime numbers to create the rhythmic and pitch structure for the piece: the metric pattern for the ground bass is 3/8, 5/8, 7/8, 11/8, 13/8, 7/8, 5/8, and 3/8. The pitches of the ground bass are respectively 3, 5, 7, 11 and 13 semitones above the low C to which the line keeps returning. This is to achieve interest of contour and to form an inner voice of upper pitches, marked in bars 1–2 of Ex. 2.10 below, which outline the pitch classes for the movement:

Ex. 2.10. ‘A Memory of the Players in a Mirror at Midnight’ from Pomes Penyeach, bars 1–8, cello.

At times it is desirable to reflect poetic structure in the shape of the music: for example in ‘Skimming Stones’, the connection between lines is reflected in the phrase which progresses from verse one to verse two on the word ‘Time’. The last word of verse one is the first word of the sentence which begins verse two (Ex. 2.11).\(^\text{23}\)

\[^{23}\text{Adams, Ian: Running over Rocks (Canterbury: Canterbury Press, 2013), 8.}\]
Ex. 2.11. ‘Skimming Stones’ in *Orb of Earth to Arch of Sky*, bars 228–231.

Ex. 2.12. ‘Of all the Souls that stand create’ in *Orb of Earth to Arch of Sky*, bars 95–98.

The em dashes in Emily Dickinson’s *Of All the Souls that Stand Create*, punctuation is significant throughout the text, and this is reflected in the treatment of all em dashes (—) with rests (Ex. 2.12).

Ex. 2.12. ‘Of all the Souls that stand create’ in *Orb of Earth to Arch of Sky*, bars 95–98.

The em dashes in Emily Dickinson’s poetry form the words into groups of syllables, some of which comprise monosyllabic words. This makes for an interesting comparison with Arvo Pärt’s response to syllables, not only in relation to his general preference for Latin (over English) as a language which provides polysyllabic texts, but also his choice of German for his *Sieben Magnificat Antiphonen* written between 1988 and 1991. In this work, the number of syllables in each word determines the duration of each bar. The following extract illustrates the impact of mono- and polysyllabic words on the rhythmic structure (Ex. 2.13):
Ex. 2.13. Arvo Pärt, ‘O Adonai’ from *Sieben Magnificat Antiphonen*, opening.²⁴

Notation of expressive detail

In the second volume of her book, *New Vocal Repertory*, Jane Manning states that ‘succinct or evocatively understated texts are often the most effective for musical setting’.²⁵ This leaves scope for both composer and performer. The extent of detailed expressive detail on a score is relevant to any performer, but especially to a singer. If the composer provides a clear indication of the interpretative direction, without excessive detail written on the score, this allows the singer to inflect with their own expressive choices, displaying particular vocal colours, interpretative strengths or emphases of diction. The collection *Pomes Penyeach* by Joyce gives particular space for interpretation because the reason for an emotion is not always made clear in the poem. This arises in the closing bars of ‘Tilly’, in which a Joycean symbol of betrayal, the ‘torn bough’ is introduced, in the context of the phrase, ‘I bleed by the black stream for my torn bough’. For example, a composer could add ‘bitterly’ or ‘regretfully’ to the score, but this would tell the singer how to interpret Joyce’s lines rather than leaving scope for the singer to interpret them (Ex. 2.14).

In the cycle, I have chosen to leave some elements open to the singer’s interpretation. For example, in ‘Alone’ I have focused on delicacy of atmosphere and a sense of mystery, with interpretation of the closing phrases of the poem drawn in broad strokes by the use of ff in the upper register on ‘delight’ and a low-pitched p on ‘shame’ (Ex. 2.15).
However, the level of prescriptive expressive detail in my vocal writing is more extensive than that of Jonathan Harvey, for example in his Buddhist Song no. 1, *Just as on a Dark and Cloudy Night*, in which greater detail is provided in the piano accompaniment, leaving the singer more freedom to inflect as she wishes (Ex. 2.16).

Ex. 2.16. Jonathan Harvey, *Just as on a Dark and Cloudy Night*, bars 11–13.\(^{26}\)

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\[^{26}\] Harvey, Jonathan: Buddhist Song no. 1, *Just as on a Dark and Cloudy Night* (London: Faber, 2003).
Other contexts in my setting of *Pomes Penyeach* require more detail of notated expression in the vocal part, for example in ‘A Memory of the Players in a Mirror at Midnight’ and in ‘On the Beach at Fontana’, in which the voice plays a role more akin to that of an instrument. In this respect, the writing for solo voice differs considerably from that of choral writing, in which uniformity within sections is usually required. In the following example, the soprano assists the instruments in a creation of a soundscape suggestive of the sea (Ex. 2.17).

Ex. 2.17. ‘On the Beach at Fontana’ from *Pomes Penyeach*, bars 19–21, soprano, harp, viola and cello.

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**Vocal issues: contour, tessitura, and pitching**

**Contour**

The effectiveness of leaps and dramatic contours in solo vocal writing adds considerably to the composer’s palette of expressive possibilities. A famous example is found in the soprano aria ‘I am the wife of Mao Tse-tung’ with its recurrent leaps of minor sixths and augmented fourths in John Adams’ opera *Nixon in China*. The aria from bars 785–960 is a study of leaps in the upper register of the soprano voice, their relentless repetition being suggestive of domination and power (Ex. 2.18).

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In my ‘Nightpiece’ from *Pomes Penyeach*, vocal leaps are used to suggest the increasing expansiveness in the images of the poetry: ‘...As the bleak incense surges, cloud on cloud, Voidward from the adoring/Waste of souls’ (Ex. 2.19).


**Tessitura**

A different application of combining leaps with character of tessitura is found in the opening movement of *Orb of Earth to Arch of Sky*, juxtaposing and interpolating clustered upper voices with divided tenors and basses, capturing the idea of a song echoing across fields (Ex. 2.20).
Ex. 2.20. ‘Sonnet: On hearing the Dies Irae sung in the Sistine Chapel’ from Orb of Earth to Arch of Sky, bars 68–73.

In the soprano voice, there is a dramatic colour combined with richness which can reach particular intensity towards the top of the treble stave. I use this in the climactic, closing phrases of ‘On the Beach at Fontana’ to express both the ardour and pain in the poetry, using the intensity available in a part of the voice where the sound remains rich (Ex. 2.21).
I share with opera composer Andrew Synnott the sense of promise a composer experiences at the prospect of writing for a singer whose voice has been trained to carry acoustically in opera houses, and whose repertoire may as easily contain the music of Rossini as that of Gerald Barry.\textsuperscript{28} This creates an opportunity to showcase the solo voice, as exemplified in, among others, the florid line in musical example Ex. 2.3 above. Ultimately however, any such technique must be at the service of the meaning and message of the words in any vocal and choral writing.

**Pitching**

Mezzo soprano Aylish Kerrigan notes the necessary pitching considerations for a pianist and singer when preparing the songs of Schoenberg’s *Das Buch der hängenden Gärten*, op. 15. In a series of reflective rehearsal diaries she cites the usefulness of certain pitch checkpoints in the piano part, and advises alternative and detailed approaches to rehearsal when these are not provided by the composer.\textsuperscript{29} I

\textsuperscript{28} Andrew Synnott in his presentation concerning his opera, *Breakdown*, addressed issues of vocal operatic writing in a composition seminar at DIT Conservatory of Music and Drama, Dublin on 14 November 2014. He outlined that exploiting those pitches on which a singer can create significantly powerful resonances is a mark of good operatic writing.

believe it is essential that the singer is provided with harmonic orientation in the preceding and accompanying musical landscape of the work in which they are engaged. In general, vocalists pitch in relation to one another or accompanying instruments (depending on instrumentation), by interval and by context within a preceding chord or phrase. With this in mind, my preference is to compose vocal music which does not require use of a tuning fork in performance.

In ‘A Memory of the Players in a Mirror at Midnight’ from *Pomes Penyeach* pitching is centred around the notes of the opening ground, which is constructed on intervals created by prime numbers. Pitches are frequently but not always doubled in the instrumental parts, and the contour of the vocal line is often mirrored in the accompanying instruments. The greatest divergence occurs in the soprano’s closing phrase, when most of her pitches are not sounded simultaneously in the instruments. However, her own line contains pitches contained in an F aeolian scale, and while the accompanying material is far from modal, the ground played is on this occasion based on a fundamental pitch of F in the harp, while heard simultaneously in its original form in the string quartet (Ex. 2.22).

Ex. 2.22. ‘A Memory of the Players in a Mirror at Midnight’ from *Pomes Penyeach*, bars 80–84.

In unaccompanied choral writing pitching can be assisted by assigning a tonal chord to some of the choir with other sections singing entirely different pitches. I find this

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30 In practice, the rhythmic coordination of this movement created greater challenges than the pitching, because the singer’s line floats somewhat independently above the rhythmic pattern of the changing metres in the instruments.
an appealing way of devising harmony which incorporates a suggestion of bitonality, and it has the additional benefit of facilitating sections in their pitching in relation to one another as illustrated here (Ex. 2.23):

Ex. 2. 23. ‘Of All the Souls that Stand Create’ in Orb of Earth to Arch of Sky, bars 132–134.

Semitone movement also facilitates pitching during progressions onto non-tonal harmonies, as in the following example (Ex. 2.24):

Ex. 2.24. ‘Sonnet: On hearing the Dies Irae sung in the Sistine Chapel’ in Orb of Earth to Arch of Sky, bars 86–89.

Aspects of instrumentation

The possibilities of timbral shading and colouristic contrasts are considerable when writing for choir or for the solo voice with chamber ensemble. Use of selected combinations and omission of choral sections or instrumental groups is discussed in the commentary chapters on Orb of Earth to Arch of Sky, and Pomes Penyeach, since
these choices are relevant to the respective trajectories and contexts of those complete works. Nevertheless, some discussion of the question of balancing foreground and background material in solo and choral writing is appropriate here. Ex. 2.7 above from *Skimming Stones* shows primary material in the sopranos, while basses sing the introductory ‘fly, bob’ motif (capturing the motion of a skimmed stone) and the middle voices provide the ‘rosary’ motif, naming the types of mysteries. This type of layering is a common method of adding structural detail and creating textural interest. It can also be seen in the following extract from the fourth of Ligeti’s six *Nonsense Madrigals* for six male voices. Ex. 2.25 shows how both altos are paired with one another as are both baritones, while the tenor solo functions independently of all the other voices (Ex. 2.25).

Ex. 2.25. Ligeti, ‘Flying Robert’ from *Nonsense Madrigals*, bars 20–21.

Choral writing also lends itself to the colouristic possibilities of dense harmonic voicing, including clusters. Ex. 2.20 above illustrates the context in which I most typically use tonal clusters in choral writing, placing this type of application somewhere between the exclusively tonal clusters by Eric Whitacre in such pieces as *Water Night* and the densely placed adjacent semitones of Danish composer Pallé Mikkelborg throughout ‘The Teacher’ from *A Noone of Night*.31

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Conclusion

The above illustrations broadly convey my priorities in writing for voice, whether for the soloist or for choir. Although the choral cantata is composed with professional or semi-professional choir in mind, my vocal music is written for those performers and groups who undertake a broad spectrum of repertoire, rather than for specialists in new music alone. Discussion of aspects specific to the song cycle *Pomes Penyeach* and the cantata *Orb of Earth to Arch of Sky* is to be found in the respective commentary chapters for these works, which focus on structural points, compositional mapping and material processes, dealing with Joycean text and reasons for the selection of particular texts.
3. Use of Received Materials

In his book, *The Rest is Noise*, Alex Ross writes, ‘There is no escaping the interconnectedness of musical experience, even if composers try to barricade themselves against the outer world’. He describes music history as something that is ‘in reality borderless and continuous’. Since composition involves a continuing process of engagement and dialogue with influences from the past and the present, it is impossible for a composer to work in isolation from a legacy of the received canon. There is naturally a wide variety of ways in which those composers who employ received materials in their works choose to do so, ranging from direct quotation to transformation to more oblique and less explicit use. An important consideration is what a composer is setting out to achieve when using received materials. For example, in the case of the sixteenth century technique referred to as ‘parody’, one piece of music is created using another, as exemplified in the renaissance tradition of using an existing motet or *chanson* to be the multi-voiced basis of a new mass. Josquin’s *Missa Mater Patris* of ca.1514 is considered to be one of the earliest parody masses as it makes substantial use of the three-part motet, *Mater, Patris et Filia* by Antoine Brumel (ca. 1460–ca. 1512) throughout the mass. Another meaning of the use of parody includes comical or grotesque reinterpretation, as referred to by Esti Sheinberg in her writings on Shostakovich. However, reference to parody in my work in this discussion does not include the satirical or humorous, but rather uses the meaning referred to above, in which one piece is used to form another. ‘Paraphrase’, on the other hand, is a process requiring integration of more limited received material into a new work. For example, typically in medieval music a plainchant melody was treated as a *cantus firmus*, but with the freedom for this material to move between parts, and to insert notes into the original as desired. Richard Sherr highlights the suggestion that in the fifteenth and sixteenth centuries

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32 Ross, Alex: *The Rest is Noise: Listening to the Twentieth Century* (London: Fourth Estate, 2008), 541.
33 Tilwood, Michael and Sherr, Richard: ‘Parody’, *Grove Music Online* (OUP), accessed 28 January 2016, http://0-www.oxfordmusiconline.com.ditlib.dit.ie/subscriber/article/grove/music/20937?q=parody&search=qu ick&pos=1&_start. The first instance of the use of the term parody in this technique was in 1587 for a mass by Jakob Paix. Until then it was referred to as ‘missa super...’ or ‘in imitationem...’.
interpretative needs and symbolism were heightened through the use of well known chants or works by other composers.\textsuperscript{36} An example of paraphrase would be Dufay’s *Missa Sancti Jacobi* (ca.1428)—one of his three early masses—in which paraphrase techniques are used in six of its nine movements.\textsuperscript{37} Another approach to paraphrase, as encountered in the modern age, is that used in Schnittke’s String Quartet no. 3, in which he not only quotes directly, but also interweaves a number of different received materials from Lasso, Beethoven and Shostakovich into a single musical texture.\textsuperscript{38}

Whatever their technical intricacies, concealment of sources plays no part in parody or paraphrase; in more recent treatments of existing music, however, resources from older material are used in such a way that they are hidden; an example of this from the music of Stockhausen is given towards the close of this chapter. The concealed application of material from the past can involve amending pitch sets, transferral of structures, use of metric proportions and ratios, and more substantial manipulation of resources in order to create a new context for received ideas. Therefore the spectrum of use of existing materials is a wide-reaching one from the renaissance to the present day, presenting the composer with a range of approaches through which to absorb and reflect existing material within the composition of new work.

Resonances of comparison occur in relation to use of received materials in a range of works by recent and living composers including Stockhausen, Schnittke, Maxwell Davies, MacMillan and Weir. In his essay *Polystylistic Tendencies in Modern Music*, Schnittke, who is recognised for his own polystylism, outlines a range of approaches from quotation and adaptation—in which context he cites Webern’s *Ricercata* and Stravinsky’s *Pulcinella*—to allusion. On the latter he writes: ‘The principle of allusion manifests itself in the use of subtle hints and unfulfilled promises that hover on the brink of quotation but do not actually cross it.’\textsuperscript{39} My approach would not be dissimilar to that of Schnittke in his String Quartet no. 3 of 1983 in which, by using different received motifs simultaneously, he further


\textsuperscript{38} Schnittke, Alfred: *String Quartet no. 3* (Vienna: Universal, 1984).

expresses the intent and meaning of the work. Nevertheless, the works contained in
the accompanying portfolio are not polystylistic although other elements of my
output are, particularly in my writing outside the portfolio for lever harp.40

In my integration of received materials into new work, some of my use of
existing materials is more akin to paraphrase than to parody, since this provides the
opportunity to modify, develop and transform the original material in a more radical
way than in parody. This kind of manipulation occurs in ‘Nightpiece’ from Pomes
Penyeach, and in Spire for orchestra as is shown in further discussion below. On the
other hand, I also occasionally use direct quotations, and ‘Nightpiece’, as well as
illustrating transformation of received material, also contains an unaltered reference
to received material. Although a direct quotation appears briefly in Amplétude for
harp, here I sought rather to create a suggestion of the sound world from which some
core pieces of harp repertoire emerged in the last hundred years, without referring
explicitly to those particular works, but instead devising particular pitch, rhythmic
and timbral resources from existing works. Chromatétude for lever harp shows a
much more direct use of existing material, and contains a recontextualisation of
seventeenth century harper Denis Hempson’s prelude for wire-strung harp, Faigh an
Gléas.

Parallels and similarities also arise with Judith Weir’s and Peter Maxwell
Davies’ integration, and even disguise, of medieval motets into newly composed
material, as compared with my use of a ground by Purcell in ‘Nightpiece’. A more
oblique use of material occurs in Stockhausen’s Freude for two harps, which lends
itself to comparison with the application of extracted resources in Amplétude. These
comparisons are outlined below as and when they apply to specific examples in my
own work.

The ways in which received material is used in my work include the
following, some of which are used simultaneously, and are discussed below under
the following headings: direct quotation; recontextualisation; inversion, alteration of
intervals, fragmentation, and rhythmic contraction; and the use of hidden materials.
A complete parody does not occur in the main portfolio compositions but is included

40 Passacaglia for Two Irish Harps (1991), Chorale variations on Deus Meus Aduwa Me (1990), and
other sets of variations, music in traditional Irish genres including jigs, reels, hornpipes, marches
(early 1990s–to date) canons for children’s choral singing (2012–to date), hymns (2010–to date).
in *Rann Dó Trí* for orchestra in Appendix 1, which is based on the use of Purcell’s Rondo from the *Abdelazer* Suite.

**Direct quotation**

Direct quotation uses received material in such a way as to draw attention to it, and to intensify the theme of the work, as in the climactic passage of ‘Nightpiece’, in which the vocal part quotes directly from Purcell’s original soprano line of ‘Dido’s Lament’.\(^{41}\) This takes place in bars 53–61, during the closing lines, when the quotation is used to heighten expression of the theme of death and otherworldliness in Joyce’s poem. It achieves this by setting the words, ‘And long and loud/To night’s nave upsoaring/A starknell tolls/As the bleak incense surges’ to pitches more frequently heard with the text, ‘When I am laid in earth, may my wrongs create no trouble...’.

A brief direct quotation also arises in *Amplétude* in a reference to the very opening bars of Lex van Delden’s *Notturno* for harp.\(^{42}\) The tonal stability of van Delden’s B flat-based chords here, which aptly contain both major and minor flavours, provided what I was looking for in creating a moment of transition to follow the *tremolando* melody, and also provided a moment of simplicity before the onset of a longer *allegro* section. The reason such a reference was suitable here is not only in the context of drawing on existing harp repertoire, but also because the B flat combined major and minor colour grew naturally out of the preceding harmonic material in the *tremolando* passage: with its extended triads and melodic shapes containing semitones, a certain degree of harmonic tension is created, which is resolved to some extent by the chords in the Lex van Delden reference (Ex. 3.1).

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\(^{41}\) Purcell, Henry: *Dido and Aeneas* (London: Novello, 2007), 70–71.

Ex. 3.1. Amplétude, bars 42–43.

Recontextualisation

Another approach to use of received resources is to reinterpret and recontextualise existing material. This is less direct than explicit quotation but, nevertheless, can involve use of blocks of material draped with the unfamiliar. Recontextualisation relates to the technique of parody as discussed above, in so far as material is not fragmented and may remain intact, but allows for greater freedom and a looser relationship with the original than is the case in the renaissance practice of parody. Chromatétude for lever harp includes such a realisation of an existing piece, Denis Hempson’s Faigh an Gléas, in which existing patterns are superimposed on a newly selected pitch range within the overall work, revoicing the original in a new tonality. Here the contours remain largely similar, but the musical language they are given is new, at least in terms of the existing repertoire for this instrument. The original piece is in the mixolydian mode, and was designed as an exercise piece in which the range of pitches covered served to check the tuning of the instrument. In a new context within a work for modern lever harp, it is expressed in a set of pitches, chosen for their combination of all twelve pitches in such a way that no lever change is required on this instrument, so firmly associated with diatonic music (see Ex. 8.2 in the individual commentary on Chromatétude in chapter eight). The revoiced Faigh an Gléas is placed towards the middle of the piece: it follows a rhapsodic introduction and subsequent passage suggesting Scriabin’s ‘Prometheus’ chord, and it precedes the final climactic, chordal section. Unlike Peter Maxwell Davies’ treatment of Purcell’s Fantasia Upon One Note, in which the structure and metric contrasts of the original are retained, Chromatétude contains a reinterpretation of the original placed within the piece, with paragraphs before and after which further
explore aspects relevant to today’s instrument and available musical languages. A similarity of approach is evident with Peter Maxwell Davies’ choice of the key of F sharp, a semitone above Purcell’s original F major, designed to express unfamiliarity.\textsuperscript{43} Although the reinterpretation of \textit{Faigh an Gléas} is based on G as in the original, the pitch set chosen creates an unfamiliar context for Hempson’s prelude. A further similarity with Maxwell Davies’ realisation is in the rhythmic relationship between the old and the new: in \textit{Chromatétude} this is to enhance the recognisability of Hempson’s piece. Unlike George Crumb’s use of Schubert’s \textit{Der Tod und das Mädchen} in the opening of the sixth movement, ‘Pavana Lachrymae’ of \textit{Black Angels} in 1970, use of \textit{Faigh an Gléas} is not designed to disconcert the listener, but rather to reference the roots of the Irish harping tradition in today’s context of newly developed instrumental possibilities.\textsuperscript{44} However, similarities exist in its use of blocks of existing material and placing new material around it, as well as the deepening of the meaning of the piece by the inclusion of received musical material. Just as \textit{Der Tod und das Mädchen} in \textit{Black Angels} helps to convey Crumb’s engagement with a theme of death and destruction of human life, \textit{Faigh an Gléas} in \textit{Chromatétude} references the role of received harping tradition in today’s context.

\textbf{Inversion, alteration of intervals, fragmentation, and rhythmic contraction}

As mentioned above, some methods of using of existing material are applied simultaneously, for example, the presentation of the original in counterpoint with the inversion. This is used in Peter Maxwell Davies’ \textit{Antechrist} in his treatment of the thirteenth century motet, \textit{Deo Confitemini Domini}.\textsuperscript{45} Similarly in ‘Nightpiece’ from \textit{Pomes Penyeach}, the inversion and the original ground are juxtaposed at different pitches (Ex. 3.2).

\textsuperscript{44} Crumb, George: \textit{Black Angels} (London: Peters, 1970), Section II, \textit{Absence}, 6. ‘Pavana Lachrymae’.
\textsuperscript{45} Maxwell Davies, Peter: \textit{Antechrist} (London: Boosey & Hawkes, 1969), bars 115–157.
Ex. 3.2. ‘Nightpiece’ from *Pomes Penyeach*, bars 11–16.

The use of varied metres, rhythmic groupings and intervals adds colour to existing resources, whether in original or inverted form. In *Spire* for orchestra, inversion of the chant *Veni Creator Spiritus* (Ex. 6.1) is sometimes combined with less altered contours of the original, as in the following example drawn from the second phrase of the melody, while bars 40–41 in the violins show fusion of inversion and original (Ex. 3.3).46

Ex. 3.3. *Spire*, bars 38–42.

In the following example from ‘Nightpiece’, fragmentation across different voices is added to the use of combined inverted and original forms of Purcell’s ground (Ex. 3.4):

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46 The chant melody *Veni Creator Spiritus* is attributed to Mainz Archbishop Rabanus Maurus (776–856) and is from the Sarum liturgy. The chant as quoted above can be found here: http://petrucci.mus.auth.gr/imglnks/usimg/6/6f/IMSLP227313-WIMA.0db6-Veni_Creator.pdf, accessed 11 April 2016. Further information about this and other versions in circulation can be found in *Companion to Church Hymnal*, Darling, Edward and Davison, Donald, eds. (Columbia: Dublin, 2005) 416–417.
Ex. 3.4. ‘Nightpiece’ from Pomes Penyeach, bars 22–28.

The gradual fragmentation of the original, together with increasingly chromatic reinterpretations of the ground, contributes to its transformation into something reminiscent of the accompaniment in Purcell’s aria. As with Judith Weir’s use of Perotin’s Viderunt Omnes from ca. 1400 in her choral work, All the Ends of the Earth, new material is composed for the female voice, and superimposed on received material in lower registers. In the example above, two versions of the ground are heard in fragmented form, the inverted ground which begins in the first violin, and the original which begins in the cello. The pitch A is omitted from the latter to facilitate vocal pitching in bar 24. Furthermore, in the last four bars of Ex. 3.4, different forms of the ground are used by the harp and the string quartet.

Fragmentation of chromatic material drawn from Purcell’s ground is taken further in bars 40–50 of ‘Nightpiece’ when contrasts of timbre and register are juxtaposed, reminiscent of the pointillistic instrumental colour typified by the much earlier and pioneering contribution of Webern in his Symphonie and arrangement of Bach’s Fuga, 2. Ricercata (Ex. 3.5).  

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47 Weir, Judith: All the Ends of the Earth (London: Chester, 2000).
Ex. 3.5. ‘Nightpiece’ from *Pomes Penyeach*, bars 40–50.

The expansion of intervals, sometimes combined with rhythmic contraction, is another method of using received materials in such a way that they are integrated through transformation into the fabric of a new piece. In James MacMillan’s percussion concerto *Veni, Veni Emmanuel* (1992), a fifteenth century chant melody is heard completely towards the close of the work, while fragments of it emerge early on, notably in a rhythmically contracted brass fanfare gesture (Ex. 3.6).

Ex. 3.6. James MacMillan, *Veni, Veni Emmanuel*, bar 34.

In the same way from the outset of my *Spire*, the original chant melody is subject to alteration, fragmentation, expansion and contraction both rhythmically or intervallically throughout the piece. For example, bars 6–7 in the flutes illustrate the intervallic expansion of the original (Ex. 3.7):

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Ex. 3.7. *Spire*, bars 6–7, flutes.

A later example of rhythmic contraction of the original can be found in the flutes at bar 22 (Ex. 3.8):

Ex. 3.8. *Spire*, bar 22, flute.

Rhythmic expansion of the melody is evident in harp, cellos, double basses and marimba in bars 30–37 (Ex. 3.9):

Ex. 3.9. *Spire*, bars 30–35.

The four phrases of the chant melody are heard audibly and successively beginning in Ex.3.9, and subsequently in bars 37 (clarinets, bassoons, violins and cellos) and 38–39 (trombone, violas and cellos), bars 40–41 (violins) and bars 48–49 (trumpets).

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50 Bracketed notes in Ex. 3.7 denote pitches contained in the original chant but which are omitted from the melody used as a resource for *Spire* in order to prevent undue repetition.
The paraphrase-type feature of multiple sources in a work significantly heightens the expressive possibilities of the concept of a work. The presence of the chant melody in *Spire* achieves this, while also creating relevance of other resources in the piece, for example, the bell peal from Christ Church Cathedral, Dublin, used in bars 196–215. This is also true to an extent in Schnittke’s String Quartet no. 3, as the meaning of the work is widened by using a number of different received resources: shortly after directly quoting Lasso’s *Stabat Mater*, he goes on to use ideas from Beethoven’s *Grosse Fuge* and Shostakovich’s DSCH motif (used by the latter composer in his own eighth string quartet and Symphony no. 10). However, Schnittke’s intentions have more to do with highlighting opposing musical styles at the very start en route to integrating them later on, while my use of different received materials seeks to integrate them into a single musical language, without separating them from the discourse of my original material. In *Spire*, further use of the chant melody is woven into the textural colouring of its third phrase in the lower register (cellos, basses and marimba) using a repeated note figure on each melodic note between bars 30–36, and additional transformation is shown in the rhythmic augmentation of the original at bars 44–45 in the trombones.

Although the original chant melody provided some harmonic resources, these were limited by the diatonic nature of the pitches in the chant itself. The commentary on *Spire* in chapter six illustrates the original harmonic resources devised which were not drawn from the chant melody. However, an approach to overcoming the diatonic limitations suggested by the chant melody is that of chromatic alteration, since this adds colour of pitch while also retaining the contour of the original chant. Later in *Spire*, intervals in the chant melody are chromatically altered to facilitate harmonic colour and movement (Ex. 3.10).

Ex. 3.10. *Spire*, bars 231–235, clarinets, oboes, flute and piccolo.

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Use of hidden materials

The use of hidden materials in various forms is most evident in the solo harp piece, *Amplétude*. Pitch sets are generated from combinations of modes and scales used by Debussy in his *Danse Sacrée* and by Marius Flothuis in *Pour le Tombeau d’Orphée*. The nature of their application and transformation in my piece is explained in the individual commentary on *Amplétude* in chapter seven. Further material for *Amplétude* is drawn from the metric structure of the third movement of Rodrigo’s *Concierto de Aranjuez*, originally for guitar, but long since assimilated into pedal harp repertoire. The reason for this choice of approach is the attractiveness of irregular and constantly changing metres used in such a way that the music retains its rhythm and drive. The transformation applied to Rodrigo’s sequence of time signatures is diminution. For example, Rodrigo’s original begins with a 3/4 bar, followed by three 2/4 bars. In the *allegro* of *Amplétude* this is halved by becoming a 3/8 bar, followed by one 3/4 bar. The anacrusis of the original is not included in the rhythmic diminution. Notwithstanding small adjustments, this diminution of metres is then applied to the complete third movement of *Concierto de Aranjuez* to form the metric outline of the *allegro* of *Amplétude*. Some amendments to the original scheme are concerned with impetus, for example, in the ascending scale passages where further diminution greatly advances the impulse of the phrase (Ex. 3.11):

Ex. 3.11. *Amplétude*, bars 113—119.

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53 Rodrigo, Joaquin: *Concierto de Aranjuez* (Mainz: Schott, 1959), third movement, *allegro gentile.*
A further minor alteration to Rodrigo’s original metres is the omission of a 3/4 bar between bars 138 and 139 in order to facilitate the onward movement starting the six-bar pointillistic phrase which precedes the onset of the final allegro section (Ex. 3.12).

Ex. 3.12. Amplétude, bars 137—140.

References to these three composers, Rodrigo, Debussy and Flothuis, in Amplétude are not audible to the listener in an obvious way. A parallel may be drawn here with Stockhausen’s Freude (2006) for two harps. It shows how some aspects of the chant hymn Veni Creator Spiritus are used in such a way that they may be deemed hidden, since the text is whispered, spoken and sung by the harpists while they play. The structural proportions of the hymn’s twenty-four verses also provide scaffolding for the design of this harp duet, but the colour and range of the writing itself is such that without a programme note, this structural resource takes on a more oblique nature. Thus it is possible and meaningful to integrate elements of existing material into a composition, because even if the element itself is not audible to the listener, the resulting effect and combination with new ideas is.

**Conclusion**

Ultimately my aim in using received materials is to integrate them into my own material. Rather than trying to recreate an old sound world with a new skin around it, I seek to create the desired sound world, and to integrate older material into that, using it not only to acknowledge, engage with and reinterpret what has gone before, but also to deepen, enhance and enrich new contexts.

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54 Stockhausen, Karlheinz: Freude (Kürten: Stockhausen Verlag, 2006).

for soprano, string quartet and harp

**Introduction**

There is a number of ways in which a song cycle can be formed into a single entity. Some imply a storyline as in Seóirse Bodley’s *A Girl*, or a theme of historical situation as in Peter Maxwell Davies’ *Eight Songs for a Mad King*, which is presented as a monodrama rather than as material for a recital, while others are bound by a structure, as is Derek Ball’s lengthy cycle of thirty villanelles, *The Way We Are*.\(^5^5\) My song cycle on *Pomes Penyeach* is linked through work of a single poet and therefore by the ensuing atmospheric style of the poetry and character of language. The material is also unified by consistency of themes: some are about love found and later lost (10.’Alone’), while others express human frailty, jealousy and resentment (9.’A Memory of the Players in a Mirror at Midnight’), or the beauty of simplicity in youth (2.’Simples’). The poems are further unified by their being published together as a collection by Shakespeare and Company in Paris in 1927, in spite of their being written across several decades of Joyce’s life, between 1903 and 1927. A copy of the final manuscript is now housed in Huntington Library, California.

The version I have set to music is the same as that of the Faber publication in 1933, in which errors from the earlier 1927 edition have been corrected.\(^5^6\) Eleven of the thirteen poems from James Joyce’s collection are used to present cameos of human experience, some rooted in nature and others borne out of a particular circumstantial emotional state experienced by the poet himself. Noted by scholars as being intensely autobiographical, the poems are vignettes of moments of significant relationship or sentiment at various points spanning many years throughout Joyce’s life. They suggest Joyce’s journey towards his fiction, and find many points of resonance in his ‘epiphanies’: these are short passages of prose which emerge as a

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\(^5^5\) Bodley, Seóirse: *A Girl* (CMC: Dublin, 1978);  
Ball, Derek: *The Way We Are*, premiere performance by Elizabeth Hilliard, soprano and David Bremner, piano at the Royal Irish Academy of Music, Dublin, 26 June 2015;  
Maxwell Davies, Peter: *Eight Songs for a Mad King* (London: Boosey & Hawkes, 2000).  
fully fledged concepts in his later writings.\textsuperscript{57} Joyce himself regarded his poems irreverently, as reflected in the title of the collection and its spelling, suggestive of something that might be sold by a street vendor, with one extra thrown in for good measure. The title \textit{Pomes Penyeach} refers to the price of the collection of poems, a shilling or twelve francs. The thirteenth poem creates a ‘baker’s dozen’ and ‘Tilly’, the title of the opening poem, is an anglicised form of the Irish word, \textit{tuilleadh}, meaning extra, in keeping with Joyce’s title, \textit{Pomes Penyeach} which resembles a seller’s cry. Following Ezra Pound’s early denouncement of the collection, the poet felt vindicated in subsequent years by Herbert Hughes’ initiative to publish a collection of musical settings of the poems in 1933.\textsuperscript{58}

Below is a list of individual songs with a brief contextual explanation of each poem, followed by a brief discussion of highlighted points of compositional interest which were not addressed in the chapter ‘Writing for Voice’. These will be discussed under three headings: Unique aspects of these texts for a musical setting; Instrumentation; and Compositional devices.

\textbf{Order of songs and background to the individual poems}

1. \textit{Tilly} (Dublin, 1904): The opening song evokes a rural picture of herding cattle in Cabra, a part of Dublin now urbanised. The version used here is Joyce’s later revision of the poem, which includes his image of betrayal, a ‘torn bough’ in the last line.

2. \textit{Simples} (Trieste, 1915): This song has a warped major feel to convey an atmosphere of wonder at childlike simplicity, and of longing for the protection of its innocence and beauty. The term ‘simples’ also refers to medicinal plants. The air mentioned in the second verse is inspired by a folk song from the Trentino area of Northern Italy.\textsuperscript{59} The poem is about Joyce’s daughter, Lucia, but yet also conveys something of a siren voice. This explains the reference to the waxen ear, with which Odysseus protected his crew from hearing the siren’s call by using wax to block their ears.

\begin{quote}
\textit{Be mine, I pray, a waxen ear}
\textit{To shield me from her childish croon}
\end{quote}

\textsuperscript{57} Interview by Anne-Marie O’Farrell with Joyce scholar, Bruce Arnold, Dublin, 9 September, 2014.
3. **Watching the Needleboats at San Sabba** (Trieste, 1912): This strophic song captures the loss of youthful intensity. The title refers to the involvement of the poet’s brother, Stanislaus in a sculling race at Trieste in Italy, where the poem was written.

4. **A Flower Given to my Daughter** (Trieste, 1913): This poem was inspired by Joyce’s pupil and lover, Amalia Popper, giving a flower to Lucia, Joyce’s daughter. The sparse instrumentation of just two violins is used to capture the delicacy of the atmosphere in the text.

5. **On the Beach at Fontana** (Trieste, 1914): The onomatopoeia in the poem is partnered in this song with sea-like sounds at the outset, echoed in vocal and string effects, and eventually giving way to the expression of tenderness and of the pain that can accompany love. The boy mentioned in the poem is Giorgio, Joyce’s son, and connects with one of Joyce’s memories of holding his son as a newborn. The beach referred to is that of Trieste’s large city port rather than of a place associated with summer leisure.

6. **Flood** (Trieste, 1915): The image of a flood here represents gathering emotions, especially of longing for love, which culminate in an expression of the pain of isolation.

7. **Nightpiece** (Trieste, 1915): The use of images suggestive of death, in addition to nocturnal pictures, prompted me to allow influences to emerge from ‘Dido’s Lament’ in Purcell’s opera, *Dido and Aeneas*.\(^{61}\)

8. **Bahnhofstrasse** (Zürich, 1918): The title of this song refers to a street in Zurich. The image of the star of evil and pain references a symptom of glaucoma experienced by Joyce, namely the appearance of a light source as sparkling dots.

9. **A Memory of the Players in a Mirror at Midnight** (Zürich, 1917): This poem expresses resentment towards a group of English amateur theatrical players in Zurich, with whom Joyce was associated as advisor, and as an offstage performer and prompter. Joyce felt alienated from the actors, for whom passion translated into action, and who were able to overcome their inhibitions through their onstage utterances.

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10. *Alone* (Zürich, 1916): Joyce composed this poem while walking by a lake, and it has been suggested that the phrase ‘sly reeds whisper’ is a reference to Syrinx, who in a Greek myth was transformed by Pan into a reed.\(^6^2\)

11. *A Prayer* (Paris, 1924): This final poem underwent a number of rough drafts by Joyce, and it expresses many varying emotions from ardour for Nora Barnacle to bitter prayerfulness.

### Unique aspects of these texts for a musical setting

What sets *Pomes Penyeach* apart from much of Joyce’s other poetry is its combination of sentiment, enigma and ambiguity. This gave rise to a particular challenge in my expansion from previous composition of individual songs to a song cycle, resulting in varied responses according to each individual poem. Images in the text are imprecise on occasion, and emotions are sometimes complex and unclear, creating scope for the composer to realise in music the fuller life of the songs. This, combined with occasional harshness of language and bitter emotions, creates a different landscape from many other Joyce poems which are associated with musical settings, for example, *Chamber Music* which in general is altogether gentler in tone.\(^6^3\) Many of the poems in *Pomes Penyeach* have a marked change in meaning and tone towards the end. For example, in 5.‘On the Beach at Fontana’, the atmosphere of foreboding is lightened, and changed into one of fervour and love in the closing climactic phrases, ending the song on a loud and intense altered C major chord (Ex. 4.1):

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\(^6^3\) Scott Klein gives a brief overview of the range of twentieth century compositional responses to Joycean texts in his article *James Joyce and Avant-Garde Music*, accessed 31 July, 2016, [https://www.cmc.ie/features/james-joyce-and-avant-garde-music](https://www.cmc.ie/features/james-joyce-and-avant-garde-music). Two examples by Irish composers include the following:

- Cranitch, Ellen: Chamber opera of Joyce’s short story, *The Dead* for four singer/actors, flute and string quartet. Project Arts Theatre, Dublin, premiered in December, 2015;
Another distinguishing characteristic of Joyce’s writing, although not unique to *Pomes Penyeach*, is the occurrence of neologisms, such as ‘sindark’ and ‘starknell’, enhancing the meaning and colour of the language. These are both found in 7.‘Nightpiece’, and Ex. 4.2 shows my response to the word ‘sindark’ in use of bass on harp, upper register in strings and *col legno* to contribute to the nocturnal and somewhat morbid atmosphere suggested in the poem:
Ex. 4.2. ‘Nightpiece’ from *Pomes Penyeach*, bars 25–29.

The greater colouristic possibilities provided by this instrumentation combine with Joyce’s neologisms to enable the expansion of the musical language in my solo vocal writing, which up to this has comprised accompaniment on a single instrument. Although the results achieved are quite different in terms of instrumentation and melodic fragmentation, it is evident for example in David del Tredici’s 1966 setting of ‘Nightpiece’ for soprano, horn and chamber ensemble that the focus there is also on the expression of the nocturnal, almost sinister atmosphere of the text.⁶⁴

A further consideration at the early stage of selection of the poetry is the sound of the words themselves: *Pomes Penyeach* contains a pleasing combination of text with vowel sounds which lend themselves to displaying the solo voice, and language containing many consonants which add an almost instrumental dimension to the setting, illustrated in the phrase ‘lash your itch and quailing’ from 9. ‘A Memory of the Players in a Mirror at Midnight’.

Many twentieth century settings of poems from Joyce’s *Pomes Penyeach* for voice and piano (for example, John Ireland, Herbert Howells, Charles Wilfrid Orr⁶⁵)

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are rooted in an earlier tonal language. However, in my song cycle I sought to achieve colour, interest and harmonic coherence in different ways, as outlined below in the section ‘Compositional devices’. While previous settings of individual poems from this collection exist, these were by different composers in a variety of styles, which are referred to and summarised by Scott Klein in his overview of the influence of Joyce’s writing on composers. Notwithstanding the exception of a shorter collection by Larry Lockwood on a smaller scale, as far as I am aware this is the first substantial song cycle derived from *Pomes Penyeach* by one composer.

The order of the poems in the song cycle varies from Joyce’s original order, and since there is no story or binding chronological thread, the ordering is instead determined by the creation of musical interest, contrasts, and the overall shape of the song cycle. Two poems, ‘She Weeps over Rahoon’ and ‘Tutto è Sciolto’ are omitted in order to heighten existing thematic and atmospheric differences between the remaining poems. The use of different instrumentation for several of the songs, where some employ scaled-down instrumentation or are unaccompanied, offers another approach to achieving contrasts between the poems. This created the possibility of bringing different instruments to the fore in different poems. For example, the suggestion of frailty, delicacy and young femininity in 4.’A Flower given to my Daughter’ is heightened in the use of just two violins to accompany the solo voice. A second version of this song was created replacing the two violins with cello and harp harmonics (See Appendix 2). This is distinct from Larry Lockwood’s use of soprano and two violins, as he uses the same instrumentation throughout his cycle of seven songs, (which does not include ‘A Flower given to my Daughter’). The delicacy and intense loneliness in 10.’Alone’ is helped by the omission of the string quartet, and is for soprano and harp only. In 8.’Bahnhofstrasse’, the sense of isolation and loss is conveyed in the use of the unaccompanied voice in a study of register and contour, led by the emotional trajectory of the poem. Although the text itself imitates the rhythm of a train, I have chosen to focus instead on the expression of loss. The song suggests someone walking alone through a street, experiencing

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disillusionment at the passing of time, years, and in Joyce’s case, eyesight, due to the onset of his glaucoma.

This approach of excluding voices or instruments for a movement is a reasonably common device, frequently used for example by Britten, as in the omission of the bow in the second *Pizzicato-Scherzo* movement of his cello sonata, and also in Pallé Mikkelborg’s choral and harp work, *A Noone of Night*, through the use of soprano with wire strung harp for a short middle movement entitled ‘Infant Joy’. In my song cycle, it is designed to create contrast and assist pacing for the singer. For example, the string quartet movement, 6.‘Flood’ functions as an interlude for the vocalist as it precedes several vocally demanding songs (Nos. 7–11). Furthermore, songs which require fuller instrumentation or larger structures are placed at the beginning and end, while smaller songs with lighter, contrasted colouring are in between (Nos. 4, 8 and 10).

**Instrumentation**

The use of string quartet and harp provides a wide colouristic palette with which not only to develop musical material, but also to draw attention in the accompaniment to images in the poetry. This created the opportunity for me to maximise timbral possibilities of the harp in a way that is less workable if the harp is used on its own. In 3.‘Watching the Needleboats at San Sabba’ the use of the rattling guiro effect by drawing a pencil end on the rear of the tuning pins adds percussive colour to the sound of the bowed strings in order to heighten the urgency of emotion. This effect requires the player to stand on the opposite side of the harp, making it impossible to play normally at the same time. Since my works featuring harp up to now did not include chamber contexts, the combination of string quartet with harp enabled a somewhat different approach to the harp than heretofore. In 1.‘Tilly’, for example, *ricochet, col legno* and violent harp bass *glissandi* help to capture an atmosphere of boldness in the herding of cattle.

Sea sounds abound in 5.‘On the Beach at Fontana’, propelled by the onomatopoeia in Joyce’s text. The following quotation illustrates how shivering is evoked by *sons xylophoniques* in the harp (Ex. 4.3):

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The menacing content of 9. ‘A Memory of the Players in a Mirror at Midnight’ is expressed in such instrumental colours as Bartók pizzicato, fingerboard sounds, use of thimbles by bowed string players, false harmonics and short arco glissandi. Use of numbers seven and thirteen, along with the inclusion of thimbles, suggests similarity with George Crumb’s Black Angels for string quartet (1970). However, in my song, specific sound colours are delineated from one another to emphasise the theme and variation structure of the piece, whereas in Crumb’s work, each effect is integrated into other sounds created by the entire group.

When utilised to full capacity a string quartet is more than the sum of its parts, and when approached as a single voice, it can produce an exceptionally powerful timbre. Therefore it is an appropriate resource in the sixth movement, ‘Flood’, which is an instrumental response to the sentiment of Joyce’s poem. The writing is based on the growth and flowering of a musical idea, appearing in the cello at the outset, rather than being founded on the syllabic rhythm of the words, or on the line pattern of the poem. While it is not the case that the string quartet is saying something the singer cannot, it is an opportunity for musical conversation without the singer, since in order for its voice to be simultaneously as prominent as that of the singer and words, it would detract from the impact of the poetry and vocal material. In comparison with Derek Ball’s recent one-act opera, Síle na Sléibhte (2012) for soprano, tape and three tinwhistles (one each in F, D, and C), in which the instruments provide thematically relevant soundscape and accompaniment, here the string quartet is used alone without the singer or harp to convey the atmosphere of the poem. While the lines of the poem are not represented in a literal way in 6. ‘Flood’, the layering effect of canonic ascending scale figures is intended to heighten expression of the words ‘Sways and uplifts’ (Ex. 4.4):

Ex. 4.3. ‘On the Beach at Fontana’ from Pomes Penyeach, bars 8–9, harp.

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70 Ball, Derek: Síle na Sléibhte (Dublin: CMC, 2012).
Ex. 4.4. ‘Flood’ from *Pomes Penyeach*, bars 58–59.

In a similar way to its use in ‘Flood’, the string quartet sonority provides satisfying momentum to the increasing sonorities in the closing passages of 11. ‘A Prayer’ (Ex. 4.5):

Ex. 4.5. ‘A Prayer’ from *Pomes Penyeach*, bars 100–102.

The use of instrumental interludes within a vocal cycle inevitably raises the question of whether the instrumental material is a) based on a specific text which is set for voice elsewhere in the same cycle, b) an instrumental response to a text which is neither spoken nor sung, or c) a separate instrumental interlude entirely, using means other than text to connect it to the songs around it. My approach of responding to the poem, *Flood* only through instrumental means falls into the third of these categories. It differs from, for example, Boulez’ use of instrumental interludes as commentaries on texts set vocally in his nine-movement *Le Marteau sans Maitre* for alto and six instruments, since in the latter the instrumental movements refer to texts which are
also set to music elsewhere in the same work, and which draw parallels with those movements in use of pitch and timbral resources. 71

**Compositional devices**

In order to develop and manipulate material, a range of compositional tools is employed. The various approaches discussed below include use of pitch sets (octatonic and devised scales, modality), harmony resulting from pitch sets, use of canon, inversion, retrograde and retrograde inversion, and use of numbers.

The particular pitch sets employed feature, among others, octatonic and devised scales. 4. ‘A Flower Given to my Daughter’ is built on all three transpositions of the octatonic scale (Ex. 4.6):

Ex. 4.6. Three transpositions of octatonic scales.

The resulting tonality is frequently anchored in major or minor triads, sometimes also providing a point of arrival at the beginning or end of a vocal phrase. Another reason for this was to assist in vocal pitching (Ex. 4.7):

Ex. 4.7. ‘A Flower Given to my Daughter’ from *Pomes Penyeach*, bars 19–21.

In this song the octatonic scale is used mainly in a combination of its original form (1) and its third transposition (3) with occasional references to the second

transposition (2). Bracketed and boxed sections in Ex. 4.7 above illustrate the combined uses of these forms of the scale both harmonically and melodically. Influences in evidence here include the song by Britten, ‘Nocturne’ from On this Island, and Ligeti String quartet no. 1, in which thirds are used without anchoring the music into a key.

A devised scale dominates the pitches of 10. ‘Alone’ (Ex. 4.8), and although the song is not restricted to these seven pitches, they create its accompanimental underlay, being especially evident in the opening and closing arpeggio passages and, for example, at the close of the interlude in bar 20 (Ex. 4.9):

Ex. 4.8. ‘Alone’ from Pomes Penyeach, devised scale.

Ex. 4.9. ‘Alone’ from Pomes Penyeach, bar 20, harp.

Although use of devised scales is not limited to this song, it was fitting to apply it to a movement in which the string quartet is not used, since it is a particularly idiomatic approach to the pedal mechanism of the harp.

A more traditional modal approach to harmony is adopted in 2. ‘Simples’, opening as it does with oscillating quartal harmonies initially suggestive of the dorian mode (Ex. 4.10).

\footnote{Messiaen, Olivier: The Technique of my Musical Language (Paris: Leduc, 1956). The octatonic scale is identified as Mode 2 in Messiaen’s ‘Modes of Limited Transposition’ in musical examples 312–314 on page 50 of Volume 2.}

\footnote{Britten, Benjamin: ‘Nocturne’ from On this Island op. 11 in ‘Art Songs in English: Fifty Songs by Twenty-One American and British Composers’, ed. Carol Kimball, (London: Boosey & Hawkes, 2006); Ligeti, Gyorgi: String Quartet no. 1 (Mainz: Schott, 1972), bars 341–536.}
Much of the harmony here is built on modal pitch sets, largely based around an F
tonal centre, evidenced in the F-dorian basis of the first four bars of Ex. 4.10 above.
A folk-song atmosphere is created in B flat-dorian for the line of the poem in which
Joyce references a northern Italian folk song in bars 57–60 (Ex. 4.11):

Ex. 4.11. ‘Simples’ from Pomes Penyeach, bars 57–60.
Although my vocal writing is by no means tonal, I endeavour to provide frequent tonal anchors in the vocal line, to aid a singer’s pitching and harmonic orientation. For example, the area of E flat minor progressing to D major is suggested in the following (Ex. 4.12):


I consider this type of orientation within portions or fragments of a tonal scale to be a pillar of vocal writing, and it is mirrored in the writing of many living composers, including in Piers Hellawell’s *Fatal Harmony* in its provision of an E ‘tonic’ for the singer, as outlined by Jane Manning (Ex. 4.13):

Ex. 4.13. Piers Hellawell, *Fatal Harmony*.74

In the central movement for string quartet, 6. ‘Flood’ hierarchy of pitches is used to create harmonic orientation, with the notes from the opening cello figure being more important than others (Ex. 4.14).

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Ex. 4.14. *Flood*, bar 1, cello.

Vibrant

The pitches of the opening musical figure in Ex. 4.14, central to 6.‘Flood’, are also essential to the harmonic resources devised for the final song in the cycle, 11.‘Prayer’, in which the chord C, Eb, F#, A, and C# is prominently used. Although altered at the very opening, the chord itself appears at significant moments later on, for example preceding a soprano coloratura phrase (Ex. 4.15):

Ex. 4.15. ‘A Prayer’ from *Pomes Penyeach*, bars 41–43.

The opening cello motive of 6.‘Flood’ (Ex. 4.14) is the source for expanding material beginning at bar 37 of the same movement (Ex. 4.16): here alternate pitches are presented, while in bar 38 in the viola, every third pitch is presented until all notes of the idea are stated (Ex. 4.16).
Ex. 4.16. ‘Flood’ from *Pomes Penyeach*, bars 36–38.

Prominent intervals include the perfect fourth and major second, from which ideas are expanded in subsequent phrases during bars 7–14. The use of seconds to fill in a perfect fourth at a climactic point in bar 36 is shown in Ex. 4.16 above. Seconds and fourths combine to provide accompanying harmonies in the upper string parts in Ex. 4.17 below, while the viola and cello present revoiced material previously introduced in bars 7–14.


Methods of transformation of pitch resources in the cycle also feature the use of canon, inversion, retrograde and retrograde inversion. Straightforward use of inversion is made in 3.‘Watching the Needleboats at San Sabba’: The vocal line in the second verse is an inversion of the vocal material in the first, with some small adjustment made. The following two examples (Ex. 4.18 and Ex. 4.19) provide a
comparison between bars 1–6 and 12–16, showing the preference for major and minor seconds and augmented fourths in the original melody of verse one.

Ex. 4.18. ‘Watching the Needleboats at San Sabha’ from *Pomes Penyeach*, bars 1–7, soprano.

Ex. 4.19. ‘Watching the Needleboats at San Sabha’ from *Pomes Penyeach*, bars 11–17, soprano.

The accompaniment highlights the preferred intervals, being based on figures which reiterate perfect and augmented fourths, along with their inversions.

More intricate use of inversion and retrograde appears in 5.‘On the Beach at Fontana’: while the song primarily provides a soundworld suggested by the sea and the sentiment of foreboding, there is periodic use of linear devices, including close canonic interplay, retrograde, inversion, and preference for the intervals of a semitone and minor third in the formation of melodic contour. The following example (Ex. 4.20) shows close canon at the unison in the two violins, using a theme which is the basis for material shown in Ex. 4.22 below.
Ex. 4.20. ‘On the Beach at Fontana’ from *Pomes Penyeach*, bars 26–29, soprano, violin 1 and 2, viola.

The following example shows the integration of a retrograde melodic contour with expression of the text on the words ‘descending darkness of fear above’ (Ex. 4.21):

Ex. 4.21. ‘On the Beach at Fontana’ from *Pomes Penyeach*, bars 35–38, soprano.

As the song reaches its climax the original phrase in the voice, pointed by the harp, is heard simultaneously in retrograde in the first violin, in inversion in the viola, and in inverted retrograde in the cello (Ex. 4.22):
Contrapuntal devices such as those mentioned above are used liberally in 7. ‘Nightpiece’, drawing on Purcell’s ground bass from ‘Dido’s Lament’, and this is discussed in detail in chapter three, ‘Use of Received Materials’ (p.33–p.35). This particular theme was chosen because of its original context in Purcell’s opera, in which Dido sings of her impending death, making it apt for Joyce’s poem, ‘Nightpiece’.  

The use of numbers in the creation of musical material is referred to in chapter two ‘Writing for Voice’ since it is in the context of my response to text in 9. ‘A Memory of the Players in a Mirror at Midnight’. Prime numbers (3, 5, 7, 11 and 13) are the basis of both the intervallic and metric layout for the 7-bar ground bass, which underpins this passacaglia movement (Ex. 4.23):

Ex. 4.23. ‘A Memory of the Players in a Mirror at Midnight’ from Pomes Penyeach, bars 1–7.

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Conclusion

My setting of *Pomes Penyeach* in the form of a song cycle shows an expansion of my compositional approach in a number of ways: it illustrates a progression from setting individual songs to the formation and cohesiveness of a complete cycle with texts by a single poet, it demonstrates the augmented instrumentation from solo voice with single instrument accompaniment to solo voice with chamber accompaniment, and it enables the use of the harp in a chamber context with string quartet, creating different timbral choices.

Interest in the exploration of musical connections with the work of James Joyce has continued from the twentieth century to today for many reasons, not least of which is the range of musical nuances, references and rhythms in the literature itself. In many cases, those seeking to compose recital repertoire for singers have tended to seek out less ambiguous poems by Joyce, while those using composition as a vehicle for extended vocal techniques have drawn on the more groundbreaking aspects of Joyce’s literary achievements. My song cycle stands somewhere between these ends of the spectrum, while finding aspects in common with the approach of the American composer Del Tredici, in his *Four Songs on the Poems of James Joyce*. This collection includes two items from *Pomes Penyeach*, ‘She Weeps over Rahoon’ and ‘A Flower Given to my Daughter’. One aspect in common in our respective approaches would be, for example, his use of a wide, textural instrumental palette beneath vocal lines which do not fragment the poem or require extended techniques.  

77 I sought a greater and different timbral range from that of more commonly used piano accompaniment, and explored varied approaches to pitch selection as outlined in greater detail earlier in this chapter. The length of my cycle is in contrast to many existing settings in which composers have selected just a few poems from the collection, resulting in some previous fragmentation of the Joyce collection, for example in Donald Martino’s *Three Songs* which include just three texts from *Pomes Penyeach*.  

78 Furthermore, the writing for the forces of soprano, harp and string quartet, augments the canon of chamber vocal music. The strategies of pitch, rhythm, line and texture throughout the cycle combine to create a coherent

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musical entity, further bound by the unifying elements of Joyce’s language, at times both enigmatic and beautiful.
5. *Orb of Earth to Arch of Sky* (2014)  
*for unaccompanied mixed choir*

**Introduction**

The purpose of writing this cantata for professional or semi-professional choir was to provide a larger integrated choral work, unified primarily by the themes of its texts. It takes the shape of a six-movement structure lasting circa twenty-five minutes. The areas outlined and discussed in this commentary below are overall layout; selection of texts; thematic material and linear processes including thematic modification, motivic accumulation and use of counterpoint; and harmony.

**Overall layout**

The following diagram shows the complete layout, with regard to speeds, extent of sectional divisions and midi durations (Ex.5.1).  

Ex. 5.1. *Orb of Earth to Arch of Sky* layout.

The overarching shape of the work is governed to some extent by the words. Unlike the practice in cantatas and choral works from the eighteenth and nineteenth centuries, there are no movements for soloists alone. Instead there are two short movements, ‘For Inward Peace’ and ‘Inuit Prayer Song’, with lighter scoring of SAT and upper basses. These provide contrasts of density and/or tempo to preceding and subsequent movements, notwithstanding use of the same metronome mark in the

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79 In my experience midi durations tend to be shorter than actual performance durations, since the lifelessness of midi can be compensated for by setting the speed slightly faster than might be desirable by real performers. For example, the live recording of *Skimming Stones* is 4’20 while the midi duration is 3’45 which is given above.
fourth and fifth movements. Liberal use of sectional divisions and *tuttis* is contrasted with occasional brief interjections by soloists drawn from the choir. Substructures which contribute to the overall shape range from through-composed in the first and fifth movements, and strophic elements in the fourth and sixth movements, to contrapuntal and/or fugal structures in the second and sixth movements. Overlaid on these are recurring thematic shapes and melodic gestures which help to unify the work. The application of these is explained below under ‘Thematic Material and Linear Processes’.

**Selection of texts**

Choice of textual material is crucial to the identity of any vocal or choral work. This piece is a secular cantata for our time, using poems which collectively convey a search for spiritual enrichment. They are concerned with a number of themes within this remit: how we acknowledge our place in the cosmos, a connection with God as expressed in the majesty of nature, and the experience of fear and hope of immortality in the acceptance of our inevitable mortality. Although the sources of the material are diverse, they hold in common an expression of the search for a fuller understanding of our human condition. This reflects the way in which choral music—a genre which in previous centuries across Europe relied on a Christian liturgical context and framework for its larger works—now needs a broader language to be the basis of longer works for concert performance. Nowadays some composers choose to reinterpret biblical texts, sometimes deliberately choosing not to adhere to the sequence of biblical narrative.80 Others take the opportunity to comment on matters of our time, for example in the recently premiered *All in its Time* by Conor O’Reilly, which sets a reworking of Ecclesiastes 3:1–8, and also in Francis Pott’s choral cantata *The Cloud of Unknowing*, which responds to and reflects on recent world events from what the composer describes as a humanist approach, notwithstanding numerous Christian and biblical resonances in the text.81

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81 O’Reilly, Conor: *All in its Time* (Wicklow: O’Reilly, 2016) for SATB was premiered on 21 May 2016 in St Ann’s Church, Dublin and conducted by the composer. It was performed by a chamber choir formed to mark the eightieth birthday of choral director and composer Colin Mawby. Francis Pott’s choral cantata *The Cloud of Unknowing* is recorded by the Vasari Singers conducted by Jeremy Backhouse, with organist Jeremy Filsell and tenor James Gilchrist. (Middlesex: Signum Records SIGCD105, 2007).
The full texts of the six poems used in _Orb of Earth to Arch of Sky_ are provided at the front of the score, and here below is a summary of the broad sentiment of each poem:

- **Sonnet: On hearing the Dies Irae sung in the Sistine Chapel**: a sonnet by Oscar Wilde (1854–1900) expressing a desire to come to know God through the natural and visible world around us.\(^{82}\)
- **Of All the Souls that Stand Create**: a poem by Emily Dickinson (1830–1886) concerned with impermanence and immortality.\(^{83}\)
- **For Inward Peace**: A short prayer by the nineteenth century Danish philosopher Søren Kierkegaard (1813–1855) conveying the aspiration for a peaceful spirit within.\(^{84}\)
- **Skimming Stones**: a meditation by the Anglican priest and poet, Ian Adams, on the possibility of prayer, symbolised by the skimming of a stone.\(^{85}\)
- **Inuit Prayer Song**: a short anonymous text evoking a sense of oneness with the created world.\(^{86}\)
- **The Habit of Perfection**: a poem by the Jesuit priest, Gerard Manley Hopkins (1844–1889) expressing a longing for freedom from barriers to perfection.\(^{87}\)

At first glance, the sentiment of the final poem is at odds with that of the opening Wilde sonnet, with its affection for things we see, hear, feel and touch. The sonnet is an entreaty for God to make himself known in the beauty of the world we see, and the musical gestures are a direct response to the sentiment of each textual phrase, with its vivid and wide-ranging images. The placing of ‘The Habit of Perfection’ at the end of the complete work reflects a progression from valuing the gifts of the senses for spiritual enrichment to eschewing them so as to be free from their limitations and temptations. The use of the Hopkins poem at the close of the piece also carries the suggestion that the perfection it refers to is part of the landscape of immortality painted by Dickinson. The way in which this is reflected in the musical processes is mirrored in the similarity between movements two (‘Of All the Souls

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\(^{83}\) Martindale, Augustine: *Soundings* (Dublin: Gill and Macmillan, 1969), 141. Although this poem is published in a number of other Dickinson volumes with punctuation removed and edited, the version cited here is used in _Orb of Earth to Arch of Sky_ since the original punctuation enhanced the rhythmic possibilities in the compositional process.


that Stand Create’) and six (‘The Habit of Perfection’) by the contrapuntal use of thematic material against a backdrop of more austere and persistent repeated major seconds. A more detailed consideration of processes of thematic transformation now follows.

**Thematic Material and Linear Processes**

Among the various types of melodic manipulation employed in the work are thematic modification, accumulation of motifs and use of counterpoint. These three will be discussed in succession.

**Thematic modification**

A typical example of thematic modification is shown in a comparison of the soprano tutti and solo lines in bars 33–40. The melodic alteration between bar 34 and bar 39 is made to suit the arrival of the soloist and choir on the word ‘nest’ which is set to a gentle third inversion A minor seventh chord at bar 40 (Ex. 5.2).

Ex. 5.2. ‘Sonnet: On hearing the Dies Irae sung in the Sistine Chapel’ from *Orb of Earth to Arch of Sky*, bars 33–40.

The soprano melody of bars 33–34 recurs in later movements, with small modifications. It is heard for the first time on the word ‘memories’ (Ex. 5.2) and therefore became a suitable choice as a melodic gesture recurring later in the work, as a way of evoking the memories first referred to in the opening movement and recalled in later movements. For example, in ‘Skimming Stones’ it appears with altered contours as follows (Ex. 5.3):
Ex. 5.3. ‘Skimming Stones’ from *Orb of Earth to Arch of Sky*, bars 249–251, sopranos.

Bars 12 and 13 of the opening movement (shown in Ex. 5.5) go on to provide a contrapuntal resource in the fugato closing movement, ‘The Habit of Perfection’, where it is combined with rhythmic augmentation (Ex. 5.4):

Ex. 5.4. ‘The Habit of Perfection’ from *Orb of Earth to Arch of Sky*, bars 411–419, sopranos and altos.

In addition to the word association mentioned above, the particular contours of this motif, and its ability to draw attention to particular words as a result of its melodic shape, made it a suitable choice for recurrence at different stages of the work.

My melodic processes in vocal writing frequently involve the suggestion of a particular mode or a portion thereof. In Ex. 5.5, this combined with modification by inversion provides contrast of contour along with consistency of intervals, helping to unify the material. For example, the soprano melody beginning at bar 10 in ‘Sonnet:
On hearing the *Dies Irae* sung in the Sistine Chapel’, based on the whole tone scale, uses inversion of four of the original six intervals in bars 12–13 (Ex. 5.5).

Ex. 5.5. Sonnet: ‘On hearing the *Dies Irae* sung in the Sistine Chapel’ from *Orb of Earth to Arch of Sky*, bars 10–13, sopranos.

Preference for certain intervals in melodic lines shows through in several instances: the contour in the bass at bar 19 is based on perfect fifths, and major seconds, and now on diatonic rather than whole tone intervals (Ex. 5.6).

Ex. 5.6. ‘Sonnet: On hearing the *Dies Irae* sung in the Sistine Chapel’ from *Orb of Earth to Arch of Sky*, bars 19–21, basses.

The *tutti* sopranos at bar 33 and the solo soprano from bars 36 to 40 show continued preference for these intervals in melodic gestures at the top of the texture (see Ex. 5.2 above).

The modification of thematic material across different movements is evident in the use of the soprano solo phrase from the opening movement quoted in Ex. 5.7 below.

Ex. 5.7. ‘Sonnet: On hearing the *Dies Irae* sung in the Sistine Chapel’ from *Orb of Earth to Arch of Sky*, bars 50–52, soprano solo.

While the opening of this idea is heard repeated in the basses in the same movement, a more complete form of the phrase recurs in *tutti* sopranos on the phrase ‘shifted
like a sand’ in the second movement, which features Dickinson’s ‘Of all the Souls that Stand Create’, as shown here in Ex. 5.8.

Ex. 5.8. ‘Of all the Souls that Stand Create’ from *Orb of Earth to Arch of Sky*, bars 121–125, sopranos.

The wide ranging theme which introduces the third movement, ‘Of all the Souls that Stand Create’ features large leaps as it progresses from one phrase to the next (Ex. 5.9):

Ex. 5.9. ‘Of all the Souls that Stand Create’ from *Orb of Earth to Arch of Sky*, bars 95–98, alto solo.

Wide intervals derived from this contour become characteristic of moments of drama in the same movement, as in bar 119 when a downward unison *glissando* is used to highlight the word ‘Sand’. In the following example large leaps of one and two octaves draw attention to the beginning and end of the phrase (Ex. 5.10):

Ex. 5.10. ‘Of all the Souls that Stand Create’ from *Orb of Earth to Arch of Sky*, bars 133–141, sopranos.
Motivic accumulation

In addition to the above organic generation of material from preferred intervals, another way of achieving coherence of linear material is by using motivic accumulation. This is the foremost melodic and structural technique in ‘Skimming Stones’. Musical examples 11–14 chart the building up of these motifs beginning with demonstrating use of the ‘fly, bob’ motif alone (Ex. 5.11), then the same motif as accompaniment (Ex. 5.12), followed by illustration of the ‘rosary’ motif (Ex. 5.13), which is then shown together both with the ‘fly, bob’ motif and other melodic material (Ex. 5.14). The suggestion in the poem that a stone can fly is an idea I found captivating, and so firstly, the ‘fly, bob’ motif was formed to suggest the movement of a skimmed stone across the water’s surface (Ex. 5.11).

Ex. 5.11. ‘Skimming Stones’ from Orb of Earth to Arch of Sky, bars 175–181, tenors and basses.

This motif is used as a unifying interpolation between sections of the poem (bars 193–197). It also becomes accompanimental material in a number of places, for example, in bars 235–241 (see Ex. 5.12).
Ex. 5.12. ‘Skimming Stones’ from *Orb of Earth to Arch of Sky*, bars 235–239, sopranos, altos and tenors.

A further accumulation in the motivic structure of this movement is the ‘rosary’ motif introduced in the inner voices at bar 218 to convey the four types of rosary mysteries. This is to reflect the image of the stone given in the phrase, ‘An ocean rosary for my prayers’ (Ex. 5.13).

Ex. 5.13. ‘Skimming Stones’ from *Orb of Earth to Arch of Sky*, bars 218–220.

At bars 252–253 this is overlaid on the first ‘Fly, bob’ motif, and shortly afterwards both motifs go on to accompany other melodic *mf* material in the soprano (Ex. 5.14).
Ex. 5.14. ‘Skimming Stones’ from *Orb of Earth to Arch of Sky*, bars 252–255.

Since the nature of the ‘Fly, bob’ motif is less climactic than the ‘Glory, sadness, light, joy’ idea, it is more suited to the concluding passage of this movement, and assists in a slowing down of harmonic and rhythmic movement (Ex. 5.15).

Ex. 5.15. ‘Skimming Stones’ from *Orb of Earth to Arch of Sky*, bars 276–280.

It is also the basis of the subsequent five-bar link to the next movement, ‘Inuit Prayer Song’ (bars 281–285).

The frequent interjection of a melodic gesture, as shown in the use of the ‘fly, bob’ motif, is paralleled in many choral works, one example being *Prayer before Birth* for women’s voices by Elizabeth Maconchy, who sets the recurring phrase, ‘I
am not yet born’ as follows, frequently reusing it in its original form as well as imitatively (Ex. 5.16):

Ex. 5.16. Elizabeth Maconchy, *Prayer before Birth*, bars 1–2.88

![Ex. 5.16](image)

**Use of Counterpoint**

In an unaccompanied choral work of this duration various means are employed to create textural contrast, including the balancing of homophony with counterpoint. The most overtly linear sections are found in the second and sixth movements, and the discussion below illustrates the more extensive use of counterpoint in the sixth movement, ‘The Habit of Perfection’. One method of creating unity in the work is the contrapuntal use of thematic material in movements which are quite different from one another. For example, the melody heard in bars 12–13 of ‘Sonnet: On hearing the *Dies Irae* sung in the Sistine Chapel’ is used contrapuntally in ‘The Habit of Perfection’, where its original form is combined with augmentation as illustrated in Ex. 5.4 above. This takes place during the final movements in which fugal expository passages alternate with episodic paragraphs. The reason for my use of counterpoint in ‘The Habit of Perfection’ is the nature of the text: its character, inherent rhythms, density of consonants and linear structure make it particularly suitable for the development of independent lines.

Here are both the fugue subject and countersubject which form the basis for the fugal exposition beginning at bar 362 (Ex. 5.17):

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Ex. 5.17. ‘The Habit of Perfection’ from *Orb of Earth to Arch of Sky*, bars 368–374.

The pitch and order of subject entries is relevant since the entry pitches themselves create a harmonic basis for textural colour at several points throughout the work. The fugal exposition begins on the upbeat to bar 363 with entries in the order of altos on A, basses on B, sopranos on Gb (F#), and tenors on A flat. Various transpositions of these four entry pitches are used to create pitch structures and harmony. The following example illustrates how they form the harmonic basis of the opening passage of the final movement (Ex. 5.18):

Ex. 5.18. ‘The Habit of Perfection’ from *Orb of Earth to Arch of Sky*, bars 328–332, altos and tenors.

This idea is first introduced in the second movement, ‘Of all the Souls that Stand Create’ in bars 125–130, and it also recurs later in the last movement at bar 481 prior to the final climactic passage.

In the more contrapuntal final movement, materials are further manipulated in a second series of fugal entries beginning at bar 421. Here the subject is inverted, and this is combined with its inverted retrograde form (Ex. 5.19):
Ex. 5.19. ‘The Habit of Perfection’ from *Orb of Earth to Arch of Sky*, bars 426–432, first altos and first tenors.

Further exploitation of fugal subject material is to be seen from bar 458, which begins a series of entries combining the original subject with its inversion and augmentation. These four entries are in reverse order from the exposition (beginning at bar 362), starting on G, A, D, and D, with all four women’s voices using notes of anticipation necessitated by the words (Ex. 5.20).
Harmony:

Harmonic progressions in the work demonstrate a preference for tone and semitone relationships, while the harmonies themselves frequently contain triadic pitches with added notes, frequently on the minor or major ninth, natural or sharpened fourth, and the flattened or natural sixth. Occasional white-note clusters characterise my writing, but these are kept to a minimum in order to highlight their particular colour. One example is in the opening movement in a reference to the echo of the gleaner’s song (Ex. 5.21):
Ex. 5.21. ‘Sonnet: On hearing the *Dies Irae* sung in the Sistine Chapel’ in *Orb of Earth to Arch of Sky*, bar 67, sopranos, altos and tenors.

The harmonies throughout the work are determined by two factors: the melodic contour which serves the text in the most prominent voice, and the meaning and atmosphere of the particular line of the poem. Notwithstanding the variety of settings for which I compose, I strive to maintain some functions of tonality (for example, the idea that chords need one another, as outlined below), while at the same time devising chords and their structures in such a way as to create a cohesive musical language within a single work. My use of harmony is based on the principle that chords function in relationship to one another, and that harmony creates a conversation in the music in which tensions are created, developed and dissolved. An example of this is in bars 270–275 of ‘Skimming Stones’, in which harmonic resolution occurs in the last bar of this extract (Ex. 5.22):
Ex. 5.22. ‘Skimming Stones’ in *Orb of Earth to Arch of Sky*, bars 270–275.

We should distinguish here between ‘chromatic’ density of harmony and sheer multiplicity of voices, which can achieve similar effects; for example, the chromatic colouring of my harmony is frequently more dense than that of Schnittke in his Choir Concerto, in which he uses other means to provide density, including subdivision of voices into as many as eleven parts.89

In their writings on choral training Jordan and Mehaffey emphasise the importance of experiential learning of modes in choral singing and understanding the context in which an interval is placed in order to assist intonation.90 Use of anchor pitches, as in the repeated harmony shown in Ex. 5.18 above from ‘The Habit of Perfection’, enables the singers to orientate their pitching to repeated or recurring notes. (These four notes could be reordered to form re’, do’, ti, la.) This is not dissimilar to the use by David Fennessy of an anchor pitch of E in his piece *choirland* (Ex. 5.23):

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**Conclusion**

The harmonic approaches outlined above find a context in the idea put forward by Stravinsky chapter two of his book, *Poetics of Music*, namely that the very organisation of sounds in relation to one another and the tension between them is what creates music, and that dissonance is not necessarily required to prepare or anticipate, while consonance gives no assurance of security. Amidst a wide ranging array of compositional choices, the composer must work within the context established for the soundworld of each particular work: I have sought to reflect this in the voice leading and harmonic choices made in this cantata as well as in the contrasts achieved in its multi-movement structural design. The outline of such features as linear development, motivic accumulation, and thematic relationships between different movements in my choral writing described and explained above serves to highlight pertinent aspects in my approach to achieving a balance in the relationship of sounds to one another, to which Stravinsky refers. These features collectively create a context into which relative consonances and dissonances are placed, forming a vehicle for my musical arguments, and creating a more substantial choral composition, designed as an anchor work and a focal point for programming in a genre where concerts frequently comprise collections of shorter pieces.
for orchestra

Introduction

My aim in writing this work was to assimilate and manipulate a range of resources, both received and devised, into a coherent musical argument within a single eleven-minute movement for large orchestral forces. Use of received material has become a characteristic element in my composition and the application of a chant melody to Spire is discussed in the chapter ‘Use of Received Materials’ (p. 34, p.37–38). In this piece it is combined with exploitation of harmonic detail to express different characteristics using instrumental rather than vocal resources. The shape of the piece is a continuous trajectory comprising three main sections: a slow opening (Tranquillo, bars 1–63) introducing statements of four chant phrases and nine chords (see musical example Ex. 6.2), a faster middle section (Allegro, bars 64–157) based on a prayer rhythm (Ex. 6.14), and finally a broader final section (Sostenuto/Tempo primo, bars 158–275) which brings together these various resources. Instrumentation tends to be lighter and sparser at the outset, while use of more complete instrumental families leads towards the central section, which strongly features membrane and wooden percussion. The final section shows a shift in use of percussion from membrane and wood towards metallic sounds, using strings and winds almost throughout, and with greater reliance on brass and fuller percussion for more climactic passages.

For clarity at this point I outline a summary of the compositional resources used and the overall trajectory of the piece. The resources comprise a plainchant melody (Ex. 6.1), nine chords representing characteristic spiritual gifts as mentioned by St Paul in Galatians 5:22–23 (Ex. 6.2), a prayer rhythm (Ex. 6.3) and to a lesser extent, bell sonorities.

Ex. 6.1. Plainchant melody.  

\[\text{Hymn 8} \]

\[\text{V} \]

e-\text{n}i \text{Cre}–\text{a}tor \text{Sp}i–\text{r}i–\text{tus}, \text{Mét}e\text{t}e\text{t}u–\text{ú}–\text{rum} \text{vís} \text{i–ta:} \]

\[\text{Imple su–pér-na grá–ti–a Quae tu cre–á–sti pécto–ra.} \]

\[\text{St John’s Sunday Missal and Cantuarium} \text{(Dublin: Neale, 1964), 46–47.} \]
Ex. 6.2. Nine devised chords.

The rhythmic resource referred to above is the following pattern, devised from the section of the Angelus prayer (see p. 89) during which nine bells are normally struck (Ex. 6.3):

Ex. 6.3. Spire, bars 63–74.

Tom-toms

**Use of the plainchant melody**

My use of chant in this piece is addressed in chapter three, ‘Use of Received Materials’ (p.34, p.36–38) but I should like here to discuss contextual comparisons. While for many centuries composers have used the rich resource of plainchant melodies as a foundation stone for their works—from Bach’s extensive use of Lutheran chorales and Brückner’s sacred or symphonic output to Duruflé’s Quatre
Motets sur les Thèmes Grégoriennes—it is also clear that for composers today chant remains a relevant resource. This is true even in its application to contemporary structural frameworks: some of these are descended from integral serialism, while others from the mid-twentieth century place the chant within free atonality, and exploit gestures within the chant to illustrate harmonic and timbral colour. There are a number of comparisons here with James MacMillan’s percussion concerto Veni, Veni Emmanuel of 1992 for which he uses a plainchant melody as a core resource. The chant is central not only because of its meaning, but also as thematic material which then undergoes various transformations: melodic, rhythmic and textural. For example, in bar 34 the outline of some of the melody is heard rhythmically contracted in the brass section amid heraldic brass interjections (Ex. 6.4):

Ex. 6.4. James MacMillan, Veni, Veni Emmanuel, bar 34.

Due to the variance of scale between Spire and MacMillan’s percussion concerto, there is different scope to manipulate and transform the original chant melodies. Since Veni, Veni Emmanuel is a thirty-minute piece, there is time for an ostinato lasting several minutes in the section headed ‘Gaude, gaude’, created simply from two notes of the chant. In this way the composer focuses the attention onto a particular interval or moment in the hymn tune for a protracted length (Ex. 6.5):


The use of the chant melody in *Spire* has the potential to dramatically intensify the expression, ethos and meaning of the work, by embedding a context for the use of other resources in the piece, such as the bell peal from Christ Church Cathedral, Dublin, as used in bars 196–215, and the nine chords designed to suggest the character of nine spiritual gifts. MacMillan similarly enriches the meaning of the central chant, by using a rhythmic heartbeat figure in many guises and registers throughout the piece to represent the physical incarnation of Christ (Ex. 6.7):^97


In my use of the chant, *Veni Creator Spiritus*, I sought to retain something of its character, rather than using it in passages with a significantly different mood. In

this respect my approach differs from MacMillan, as he uses the same chant melody in more lighthearted passages, in particular the hocket sections (e.g., bars 255–287), as well as in more sombre passages. In the allegro passages of Spire, I allowed the prayer rhythm to come to the fore, rather than using a lively version of the chant.

A composer widely associated with the use of chant in his music is Peter Maxwell Davies, and some comparison with his approach is merited here. In general, my approach to use of received materials would be comparable to Maxwell Davies’ use of baroque gestures in his Eight Songs for a Mad King, or to his use of the thirteenth century motet Deo Confitemini Domino in the chamber piece Antechrist since, as outlined by Paul Griffiths, in parts of these works, sections of the received material are immediately recognisable.

By contrast, in his work for large chamber ensemble, A Mirror of Whitening Light, his approach to dealing with pitch limitations of chant was to select notes with which to create a new contour. It involves extracting portions from phrases, and transposing some of those fragments to arrive at pitches which suggest a considerably different tonality from that of the original chant (Ex. 6.8).

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Maxwell Davies, Peter: Antechrist (London: Boosey & Hawkes, 1969);
By contrast my approach was to leave the chant more intact, to use it entirely, and to devise nine representative chords. These helped to fulfil harmonic needs not met by the chant, due in part to its use of the ionian mode and having a more harmonically static nature in comparison to other frequently heard chant melodies. Maxwell Davies makes strict use of the eight selected pitches by projecting them onto an 8 x 8 mercury magic square, sometimes using the rows in order from left to right, sometimes spiralling anti-clockwise from C#. He also uses the magic square as a basis for rhythmic durations, a practice derived from integral serialism, but a further indication of variance from *Spire*. I sought development instead in the juxtaposition of contrasting chords, in the varied instrumentation of established rhythmic patterns, and in finding different ways of voicing the phrases of the chant, while still reflecting their inherent contour.\(^{100}\)

Thus the divergence of approaches to use of a chant resource becomes clear: my use of the chant melody has more in common with that of MacMillan, with regard to his prioritising of contour, timbral colour and rhythmic variation, and fewer parallels can be drawn with the more serialist use of chant pitches as in *A Mirror of Whitening Light*. One reason for this is that I sought to retain audibility of the melody

\[^{99}\text{Many sources provide partial information concerning the derivation of the eight pitches from the chant melody, but provision of the complete melody here and illustration of the transposition of portions of the chant outlines the way in which it was possible for the composer to arrive at the eight pitches chosen.}

\[^{100}\text{Maxwell Davies, Peter: *A Mirror of Whitening Light* (London: Boosey & Hawkes, 1978).}\]
even on first hearing, to retain its character and shape, and to convey its meaning more readily.

**Use of nine devised chords**

In this piece I have sought to create harmonic tension by using twelve available pitches in a hierarchy provided by the nine devised chords, which are designed to represent the perceived character of the nine spiritual gifts cited in Galatians 5:22 (Ex. 6.2). Although the original chant melody provided some harmonic suggestion, this was limited by the diatonic nature of the chant and so the need arose to devise original harmonic resources not drawn from the chant melody. In selecting the chords, I gave priority to achieving harmonies so that chords contain diverse combinations of intervals. These harmonies are the basis for the initial harmonic movement at the outset of the piece, underpinning many passages throughout and often providing a framework for accompanimental, motivic material. Later the chords are used in transpositions as necessary for combination with notes or fragments of the chant — for example, in the use of the faithfulness chord in strings in bars 223–230. The passage beginning at bar 231 (Ex. 6.9) shows use of various transpositions of the chords in the lower stave of the following extract, thus providing the harmonic basis for melodic transformation of the chant:


The nine chords form the basis not only of textural accompaniment, as in the upper strings in bars 8–12 on the ‘faithfulness’ chord, but also of melodic elements, for example in the glockenspiel in bars 23–26 (Ex. 6.10).
The example above also illustrates the possibilities when devised chords are used in combination with one another. In bar 3 of Ex. 6.10 above, although all the pitches used are in the faithfulness chord, the pitches of the accompanying instruments on the lower stave are from the love chord also, and are sustained from the previous two bars. This kind of pitch relationship between the different devised chords helps to achieve a consistency of harmonic language. For example, the relative pitches of ti-do-re-mi-fa which comprise the goodness chord are also to be found in the seven-note faithfulness chord, while both the five-note kindness and gentleness chords contain the relative pitches of ti-do-re-fa (see Ex. 6.2).

Varied voicing and contrasted instrumentation provides further timbral colour to the integral pitches of the devised chords. For example, in bar 12 of Spire, a cluster of sustained strings is framed above and below by piano woodwinds (Ex. 6.11):
Ex. 6.11. *Spire*, bar 12.

Much later in the piece in bar 168, lower strings with false harmonics provide tonal clusters on the same faithfulness chord, which oscillates between semitone transpositions. These tonal clusters distinguish themselves from such timbres used, for example, by Gorecki in his *Symphony of Sorrowful Songs* or by Eric Whitacre in *Water Night* since the latter examples are placed in a more diatonic context, while in *Spire* the tonal cluster drawn from the faithfulness chord is unique: this is because the other eight devised chords cannot be rearranged to form a complete diatonic group of pitches (Ex. 6.12).^{101}


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^{101} Gorecki, Henryk: *Symphony no. 3*, op. 36, third movement, Antoni Wit, Polish National Radio Symphony Orchestra, Zofia Kilanowicz (Naxos, 8.550822);
In the above Ex. 6.12 showing bar 168, it is coloured towards the end of the bar by crescendo tremolando on bass drum. An altogether more spacial voicing of this faithfulness chord can be seen in bar 217, involving all sections of the orchestra (Ex. 6.13):

Ex. 6.13. Spire, bar 217.

Here the dynamic and span of registers are matched by the full colour of the woodwinds, metallic and wood pitched percussion, and the greater part of the brass family.
Use of prayer rhythm

The pattern shown in Ex. 6.3 above is a rhythmic and textural interpretation of the spoken rhythm of the final section of the Angelus prayer, itself centred on bells. Here is the way in which the rhythm is derived from the prayer (Ex. 6.14):


This pattern is introduced in part at the outset of the piece in the woodblocks in bars 2–6. As the opening Tranquillo section gathers momentum, the prayer rhythm in augmentation is featured at bars 51–62, harmonising an ascending upper chromatic line using the nine devised chords. The original form of the rhythm pattern goes on to form the basis of the central Allegro section (bars 64–157). This faster middle section provides the opportunity for a wide variety of timbral exploration, utilising and developing the rhythmic theme. Initially this is achieved by illustrating four differently orchestrated settings of the rhythm, the second of these having been simplified in the cello sul ponticello phrases in order to retain clarity and impetus (bars 86–96). The rhythm is then developed through imitation (bars 101–105), and by condensing it using selected elements from within the rhythm (bars 114–118) to heighten its drive. This new pattern is presented three times in succession, with the second statement in retrograde (bars 107–113, with a minor alteration to the rhythmic pattern at bar 111). The opening motif from the rhythmic theme on woodblocks

102 St John’s Sunday Missal and Cantuarium (Dublin: Neale, 1964) 554–555.
closes the Allegro section, and makes way for the Sostenuto at bar 158. An architectural aspect which is a distant relative of the rhythmic retrograde in the centre of the work is the miniature arch form in the very opening (bars 1–7): notwithstanding the simultaneous statement of rhythmic content in the woodblocks, it suggests the undulating movement of a bell constantly reversing on itself. Non-retrogradeable rhythms are also exploited in a rich chorus of heavily divided strings in false harmonics in bars 163–174, marking the start of the Tempo primo, tranquillo section.

Bell peal, sonorities and timbre

A less prominent melodic resource is that of a bell peal from Dublin’s Christ Church Cathedral and bell sonorities. These are suggested in a number of ways, namely by the use of gong and vibraphone from bar 196, alternating sustained woodwinds in bars 197–204, and crotales with marimba tremolo in bars 205–209. The peal itself is featured at bars 210–215 on clarinet, vibraphone and harp (Ex. 6.15).

Ex. 6.15. Spire, bars 210–213.

While I have endeavoured to suggest bell sonorities, I have avoided use of overtly bell-like instruments as celeste and chime bars, so that the metallic percussion I did employ could be combined with such complementary sonorities as harp, false harmonics in strings and piccolo. The timbral character of the piece lies somewhere between the delicacy of Takemitsu in his orchestral pieces Spirit Garden (1994), and Solitude Sonore (1958) in which bells play a prominent role, and the robustness of Henze’s Barcarola (1979).

103 Takemitsu, Toru: Spirit Garden and Solitude Sonore, Marin Alsop with the Bournemouth Symphony Orchestra (Naxos 8.557760); Henze, Hans Werner: Barcarola (Zürich: Schott, 1979).
Conclusion

The work is a synthesis of diverse elements and techniques, which are important to my composition, and some of which have been applied in other, separate works across my portfolio. The piece seeks to reinterpret the melodic, chordal, rhythmic and timbral resources outlined above in order to express, in orchestral terms, the character of the ideas suggested in the nine chords. The chordal colour and melodic gestures of the work clearly reveal it to be a relative of the other compositions presented. Here, however, these elements are woven into a single orchestral movement integrating use of received materials, application of devised harmonies, characteristic rhythmic invention and orchestral timbral possibilities in a musical trajectory.
Introduction

One of the themes of my portfolio of works is the expansion of the language and contexts of the harp, as shown in the song cycle *Pomes Penyeach* and in the Irish harp piece, *Chromatétude*. In *Amplétude* for pedal harp, this is achieved by the exploitation of the colours of the harp throughout its pitch registers, dynamic range, and a spectrum of extended techniques. The title of this piece is a word combining amplitude, meaning the physical width of the string's vibration when played, and the term étude because of the many playing techniques used in the work.

The harp is also an instrument which carries considerable musico-historical stereotyping through its association with cadenzas in ballet scores of the nineteenth century, and filigree delicacy in the hands of impressionists writing in the earlier part of the twentieth century. Like many others who have written for the harp since then, I sought in this piece largely to jettison such associations and, unlike some others’ contemporary approaches, I wished also to acknowledge the place from which the harp has come in the last hundred years. Drawing on aspects of three works by themed composers for the 2012 Dutch Harp Festival, *Amplétude* shows compositional and/or harpistic techniques exploited by Joaquín Rodrigo (1901–1999), Claude Debussy (1862–1918) and Marius Flothuis (1914–2001). Much repertoire by Rodrigo played on the harp comprises transcriptions, including his *Concierto de Aranjuez* originally written for guitar. This last is now considered standard harp repertoire in an edition by Nicanor Zabaleta and is one of three works from which I drew resources for *Amplétude*.\(^{104}\) Apart from the widespread importance of the three works to harpists and the 2012 Festival, they offered materials—modal, rhythmic and timbral—that renew themselves so as to offer possibilities for my treatments. In the case of *Concierto de Aranjuez*, I used the sequencing of time signatures from the third movement, which is explored below in the section, ‘Rhythmic Structure’. The other two works which have provided some of the background to my piece are Debussy’s *Danse Sacrée et Danse Profane*, written

\(^{104}\) Rodrigo, Joaquín: *Concierto de Aranjuez* (Mainz: Schott, 1959).
in 1904 for the cross-strung harp, and Flothuis’ Pour le Tombeau d’Orphée.\textsuperscript{105} From both of these works I drew influences in the formation of pitch groups, which is discussed below under its own heading. Debussy’s approach is further reflected in use of Fibonacci proportions, and this is outlined in the section addressing structure. The varying extents to which these resources are used and transformed is presented in the following discussion under the headings ‘Structure’, including its rhythmic layout; ‘Pitch groups’, how they were devised, how they relate to the instrument, and resulting harmony; ‘Range of colour’ which enables the references to composers of existing harp repertoire; and ‘Notational issues’ arising as a result.

**Structure**

**Overall shape**

My intent was to integrate these inter-textual elements into an exploration of my own concert instrument, in a piece suitable for programming at the end of a recital.

The underlying proportions of Amplétude acknowledge Debussy’s use of the golden section in other works composed around the same time as the Danse Sacrée et Danse Profane, for example in La Soirée dans Grenade of 1903 and Cloches à Travers les Feuilles of 1907.\textsuperscript{106} This is achieved in Amplétude by applying the golden section ratio and specifically by employing the Fibonacci number series. With one minor alteration, the durations of each section in seconds are as follows: 55", 89", 152" (adjusted from 144"), 55", 34", and 21"; these are shown in the score by double barlines. Although the unit measurement of seconds differs from the measurement of minims and dotted minims in, for example, Cloches à Travers les Feuilles, there is similarity in the way these proportions are used to balance different sections of material and texture.

The piece opens with an andante passage comprising a free introduction and two further episodes before moving into the larger rhythmic allegro section. This allegro employs colouristic devices throughout, and continues to gather momentum until the final maestoso coda. Traces of theme and variations are used in both

\textsuperscript{105} Debussy, Claude: Danses: Danse Sacrée et Danse Profane (Paris: Durand, 1910); Flothuis, Marius: Pour le Tombeau d’Orphée, op. 37 (Amsterdam: Donemus, 1950).

andante and allegro sections as a way of presenting melodic material in different timbral contexts rather than as a structural framework for the entire piece. This reference to theme and variation form is another acknowledgment of the legacy of historical harp repertoire, since for centuries it was the form most easily applicable to many developmental stages of instrument design. The recurring theme is as follows (Ex. 7.1):

Ex.7.1. Amplétude, bars 16–23, left hand.

This reappears in a range of guises including canonically imitation with retrograde in a leggiero passage extending from bar 121 to bar 135. The axis of the retrograde is shown in the following excerpt from the canonic paragraph (Ex. 7.2):

Ex. 7.2, Amplétude, bars 126–131.

Many other voicings of the theme are used to illustrate colour and are outlined where relevant in the paragraph below entitled ‘Range of Colour’.

Rhythmic structure
The substantial allegro section in the middle of the piece is—notwithstanding some minor amendments—a map of the metre structures of the final movement of Rodrigo’s Concierto de Aranjuez. The way in which Rodrigo’s resources of metre are
applied in this central section of Amplitude is outlined in chapter three, ‘Use of Received Materials’ (p.39–40). This addresses the main rhythmic structural elements of the piece. Outside of the principal allegro material, other sections are not bound to metric structures of an existing work, and instead serve the purpose of framing the content placed in between.

**Pitch groups**

**Derivation of pitch groups**

The musical dialect of the three compositions referenced as a background to this piece presented me with particular choices where pitch was concerned. All of those works, to a greater or lesser extent, are rooted in diatonic tonality, from Debussy’s *Danse Sacrée* which opens with D aeolian material later merging into use of a whole tone scale with D as its basis, to Flothuis’ extended tonality blossoming outwards from a B flat aeolian beginning. An attractive progression towards harmony on the flattened fifth in bar 25 of the Flothuis work led me to explore the combination of partial aeolian scales with a lowered fifth, resulting in the following pitch set (Ex. 7.3), the first of two scales on which the work is based. Two transpositions of aeolian pentachords, each with a flattened fifth, are shown here:

Ex. 7.3. Scale 1.

![Scale 1](image)

This is the pitch set from which the theme in Ex. 7.1 was created.

A further resource was devised by combining a whole tone tetrachord with a partially dorian scale. The presence of D in this second scale created a three-note group suggesting a harmonic minor flavour reminiscent of moments in Flothuis’ piece, and also brought about four adjacent semitones (C sharp, D, E flat and F flat) for added chromatic possibilities (Ex. 7.4):
Ex. 7.4. Scale 2.

How the pitch groups relate to the instrument

Due to the nature of the pitch layout on the harp, it is necessary to devise a scale which allows for adjacent notes, since the omission of a string would create undue pitch limitations. Although it is a harmonic instrument, only seven pitches are available at any one time as modality is fixed, and this has implications for choices of pitch. Therefore, if devising a pitch set, the best option is to include each string, and to decide whether it is set at flat, natural or sharp. The danger here is that of arriving at pitch sets whose tonal or other harmonic flavour is not appropriate to the desired expression, often due to pitch duplication caused by enharmonic pedal settings. While pitches have been chosen for their melodic and harmonic potential, enharmonic spelling of pitches reflects the practical necessities brought about by the pedal mechanism of the harp. Such necessities arise from the difficulty of rapidly repeating the same string in certain contexts, and the obstacles created for the player who has to read pitches which are spelt differently for pedalling reasons, from a more usual, modally consistent spelling.

Resulting harmony

Prominent pitches during passages based on scales 1 and 2 are E and A flat, while material formed on scale 2 prioritises E flat also. For example, the theme (Ex.7.1) opens on A flat and closes on E, and in a later passage of sons xylophoniques based on scale 2 (Ex. 7.5) the recurring E flat suggests its importance:

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107 This approach is applied particularly successfully in Gráinne Mulvey’s Exploration for pedal harp. Further detail is available in this video made by Dr Jennifer McCay in 2015, accessed 21 September, 2016, http://www.aicnewmusicjournal.com/articles/irish-composers-irish-music-gr%C3%A1inne-mulveys-exploration. The work was premiered by Anne-Marie O’Farrell on 31 May 2015 in 12 Henrietta Street, Dublin, as part of the Irish Composers on Irish Music concert series in association with the Association of Irish Composers and @TheDrawingRoom.

Ex. 7.5. *Amplétude*, bars 56–59.

The intervals of the augmented fourth and augmented fifth are in frequent use, with quartal harmony dominating passages within the *allegro* section (Ex. 7.6).


The harmony also combines major and minor thirds as suggested by the Lex van Delden *Notturno* reference in bars 42–43. ¹⁰⁸

**Range of colour**

The harp is an instrument with a wide range of additional colours which, used effectively, can significantly augment the available timbral spectrum. These include, among others, knocking, strumming, using implements on the strings, pins and wood, vibrato, and pedal effects. Many composers have successfully integrated such techniques, particularly in such character pieces as Carlos Salzedo’s *Chanson dans la Nuit* and Deborah Henson-Conant’s *Baroque Flamenco*. ¹⁰⁹ My intention in *Amplétude* was to make use of effects in such a way that they were assimilated into the musical content without their presence creating any particular national

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¹⁰⁸ Van Delden, Lex: *Notturno* (London: Lengnick, 1954). See Ex. 3.1 in chapter three, ‘Use of Received Materials’.

Henson-Conant, Deborah: *Baroque Flamenco* (USA: Golden Cage, 2008).
atmosphere, as is the case in the hispanic colouring of the Salzedo and Henson-Conant works mentioned. Nevertheless, I was seeking to derive sounds in a similar manner to the guitar, without creating outright imitation of another instrument. Although reverse strumming with nails and tapping of the soundboard suggest a guitar, this is diffused by immediate use of the lowest E flat on the harp because it is so much lower than the range of a guitar (Ex. 7.7):

Ex. 7.7. *Amplétude*, bars 50–52.

The reverse strumming with nails, tapping and guitar-like tremolos collectively illustrate the background influences of Rodrigo’s guitar writing. *Tremolando* on the same string is reminiscent of guitar études, notably Francisco Tarréga’s *Recuerdos de la Alhambra*, but this is not a technique generally employed on the harp, in spite of its being idiomatic.\(^\text{110}\) Once again, use of the lower register on the harp creates deeper sonorities than those available on the guitar, in addition to the accumulated resonances brought about by *legato cantabile* playing (Ex. 7.8).

\(^{110}\) Tarréga, Francisco: *Recuerdos de la Alhambra*, ed. O’Farrell, Anne-Marie (Dublin: O’Farrell Publications, 2003). Rapid repeated notes on the same string tend not to be included in classical pedal harp study because of the availability of enharmonics on the pedal harp. However, they are an integral part of the playing of Scottish and Irish traditional music and as a result are a standard technique of folk players.

Due to the wide range of colour on the pedal harp, pointillistic gestures work successfully. One of the variations of the theme quoted in Ex. 7.1 exploits this possibility with use of *sons xylophoniques*, harmonics, *etouffès* and different degrees of articulation (Ex. 7.9):


The effects used in *Amplétude* by no means exhaust the possibilities available, since the purpose is for them to be a vehicle for musical content, rather than a display of novelties of sonority. Therefore many other attractive sounds (vibrato, sliding a metal object on a string, prolonged Indian metallic buzzes) are not explored here because they would be more appropriately employed in a different piece entirely. I was also keen to adhere to the instrument itself, without additional percussion in the style of, for example, Raymond Murray Schafer in his *The Crown of Ariadne*.\(^{111}\) The latter is a fine example of bridging the sonorities of extended techniques on the harp with small percussion instruments (triangle, bell tree, crotales and ankle bells) played by the harpist. However, in *Amplétude* I was striving for a wide range of sound colour without the addition of other items or instruments.

Notational issues

One reason for the diverse notational practice evident in harp repertoire is the independent and freelance nature of its publication. Another is the time required for the establishment of standardised notation of extended techniques, and in the interim a range of solutions is often applied to various notational issues. It is acknowledged that although the Lawrence/Salzedo Method for Harp and Salzedo’s Modern Study of the Harp have been the main source of information for effects on the harp for much of the twentieth century, these publications are now somewhat outdated. Examples of techniques which currently raise questions of notation are reverse strumming and sons xylophoniques. More commonly used effects include pedal slides and knocking on the instrument, the notation of which is now becoming more standardised.

Reverse strumming is achieved by strumming all the strings in a specified range with one hand while simultaneously damping the excluded pitches with the other hand as illustrated here (Ex. 7.10):

Ex. 7.10. Amplétude, bars 44–45.

It is a technique commonly employed on the Russian gusli, and is not yet accounted for in standard harp notation as it is often used by such musicians as Catriona McKay and Edmar Castaneda who prefer to work aurally. Deborah Henson-Conant borrows string bowing indications in her notation of this effect, and a single stave layout is used. Raymond Murray Schafer on the other hand, uses standard up/down arrows on arpeggiando lines in his harp concerto to indicate the direction of plectrum

strumming. The reverse strumming shown in Ex. 7.10 above is rare in classical or contemporary classical harp contexts, and therefore its notation is not yet firmly established. Standard strumming is catered for in both Salzedo and Stone publications, but both involve cumbersome diagrams above the stave.

*Sons xylophoniques* are produced by plucking the string normally with one hand, while fingers of the other hand press gently on the base of the string, dulling the overtones and shortening the decay, creating a sound not dissimilar to that of an African thumb piano. The notation of this effect continues to vary, even in recent decades. Although Kurt Stone’s guideline for notation of *sons xylophoniques* is clear and uncluttered, it requires two staves, which would have impeded clarity if used in the context of this effect in *Amplétude*. The following quotation illustrates the clarity of contour of the single line in which *sons xylophoniques* are combined with intermittent standard resonances (Ex. 7.11):


Different notations of *sons xylophoniques* abound, including in *Algues* by Bernard Andrés, who has written numerous works for harp. However, many approaches do not reflect the transformation of timbre on applicable notes. As a result, when the effect is combined with normal resonance, the differentiation is not as visibly prominent on the score as is shown in the last bar of Ex. 7.11 above. The frequent alternation between standard notes and *sons xylophoniques* between bars 58 and 67 of *Amplétude* requires a clear distinction between notehead types to prevent the need for a new written instruction in every bar. Contrasting notehead types in

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113 Henson-Conant, Deborah: *Baroque Flamenco* (USA: Golden Cage, 2008);
114 Salzedo, Carlos and Lawrence, Lucile: *Method for the Harp* (New York: Schirmer, 1929);
addition to *sons xyophoniques* instruction on the first use provides the necessary clarity.

Tapping the soundboard is common and is generally notated above or below the stave accompanied by an instruction as necessary as shown in the second bar of Ex. 7.12:

Ex. 7.12. (as Ex. 7.7) *Amplétude*, bars 50–52.

![Ex. 7.12](image)

It is distinguished from other effects by use of a solid black, diamond-shaped notehead. Although extended techniques in *Amplétude* are integral to the character of the piece, there are not so many different types of tapping that a glossary is required as provided, for example, in the Welsh publication *Telyn Fyw/Living Harp* which details the many types of tapping used in this volume of eight contemporary works.\(^{117}\)

Pedal slides or pedal *glissandi* are now in common use, and as a result, Gould’s recommendation of a slur and verbal instruction to accompany the diagonal line and pedal change is not always observed.\(^{118}\) It is considered sufficient to notate the pedal change, accompanied by a diagonal line in between the chromatic pitch change. Use of a clear diamond-shaped notehead emphasises that the second pitch is not plucked afresh as shown in bar 63 of Ex. 7.11 above.

In the notation of effects, it appears that in general, current trends point towards providing clarity as well as simplicity. As a performer, I am intimately familiar with a player’s impulses when reading a new piece and with the need for immediacy of communication through the score itself, as distinct from an

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\(^{117}\) Bennett, Elinor, ed.: *Telyn Fyw/Living Harp* (Caernarfon: Curiad, 1996), 9–11.

accompanying explanatory glossary. The clearer the notation, the more accurate the response of the player will be.

Conclusion

The variety of textural colour and display of the instrument’s capacities through the exploitation of diverse playing techniques in this work make it a meaningful addition to solo harp recital repertoire. Its place in my portfolio is that of a piece which both augments the timbral language of the harp and draws on resources from received repertoire in the creation of a new work, in which traces of the legacy lie just beneath the surface.
8. Chromatétude (2015) for lever harp

The instrumental context in which Chromatétude was written

Before outlining the various elements of this piece for lever harp, it is necessary first to provide some contextual background to its composition and raison d’être. Up to now the repertoire of the lever harp has been, and still remains, predominantly diatonic due to the significant influence of non-classical genres on its repertoire, particularly of folk music from Celtic countries and more recently, popular music. Harmonic developments of the last hundred and twenty years or so appear to have passed the instrument by in terms of the development of its repertoire. Furthermore, its lever mechanism, which has existed in various primitive forms since its early development in Austria in the late 1600s, has only begun to develop in the last thirty years or so, giving rise just comparatively recently to greater chromatic possibilities. Recently designed levers are easier to handle singly and in groups at speed, are more accurate in pitch, and provide a clearer tone when engaged with the string. Yet, in spite of the resulting expansion of harp repertoire from baroque, jazz and contemporary styles, few players today are comfortable changing levers to any considerable extent during a single piece. Although a great deal of my playing has been concerned with development of the repertoire based on increased levering during playing, in Chromatétude I wanted to explore the possibility of a twelve-note language which required no lever changes throughout the piece.

This commentary will outline the following aspects: compositional resources not addressed in chapter three, ‘Use of Received Materials’; structure; and how the harmonic approach taken lies on the lever harp, referencing its context within current repertoire.

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119 A thorough consideration of the current state of lever harp repertoire and its technique is in my chapter entitled ‘The Chromatic development of the lever harp mechanism, resulting technique and repertoire’ in Irish Harp Studies, eds. Helen Lawlor and Sandra Joyce, (Dublin: Four Courts Press, 2016).

120 An example of extreme lever changing is illustrated in my video recording of Bach Chromatic Fantasy BWV903 https://www.youtube.com/watch?v=MFpNIROZFe4, recorded January, 2015.
Resources

For one of its borrowed resources, Chromatétude draws on the wire strung harp study, Faigh an Gléas (‘Try if it be in tune’) notated by Edward Bunting at the Belfast Harp Festival in 1792 from the playing of blind harper Denis Hempson. An explanation and contextualisation of my application of this piece of received repertoire is discussed in chapter three, ‘Use of Received Materials’, under the heading ‘Recontextualisation’ (p.32–33).

A second resource is twelve transpositions of a quartal chord which contains all possible types of fourths expressed across six pitches, also known as Scriabin’s ‘Prometheus’ chord (Ex. 8.1).

Ex. 8.1. Scriabin’s ‘Prometheus’ chord with its eleven transpositions.

The lever setting for the entire duration of the piece was devised to give access to a sufficiently chromatic range, thereby facilitating all transpositions of the ‘Prometheus’ chord, a twelve-tone quartal chord, and the possibility of bitonal and polytonal suggestions. The lever setting is shown here in staff notation (Ex. 8.2) and is shown on the instrument in Ex. 8.3 below:

Ex. 8.2. Pitch setting for Chromatétude.


Ex. 8.1 above shows a chromatic layout of all possible transpositions of the ‘Prometheus’ chord, but this voicing would be impossible to achieve on lever harp without extensive levering. Therefore it was necessary to find the most desirable voicing of each chord on the harp, based on the various octaves in which certain pitches were available. The resulting contours stretching between different registers contribute to the character of the piece.

Nicholas Slonimsky’s twelve-tone quartal chord, in which all twelve semitones are stated in a single chord comprising perfect fourths, is another resource used for its chromatic colour as the piece approaches its climax.\(^\text{123}\) For greater clarity of timbre amid building resonances, the twelve pitches are shared between the following two chords (Ex. 8.4):

Ex. 8.4. *Chromatétude*, bars 64–65.

![Musical notation](image)

**Structure**

*Chromatétude* has four sections: a free introduction sets out the tonality, and introduces chromatic lines not normally characteristic of lever harp but made possible by harmonics of various upper partials. This is followed by a second, whimsical, passage (bars 24–37), based on a fragmented, arpeggiated pattern drawn from ascending transpositions of the ‘Prometheus’ chord. This is one of the source chords for the piece, and it appears in the second and fourth sections, separated by the paraphrase of *Faigh an Gléas*, but the complete harmonic framework of the chord is not used in both sections. Instead, the second section on page two (bars 24–37) introduces the harmonic area, and is fragmentary, while the fourth section (beginning at bar 54) is richer, and illustrates the complete ‘Prometheus’ chord in all transpositions. In the second section, one element in its partial statement of harmony is the arpeggiation, adapted from private lettering symbolism derived from braille. While this is not essential to the listener, it reflects an element of the history of the Irish harping tradition of blind itinerant musicians in previous centuries. The third section provides the paraphrase of Hempson’s *Faigh an Gléas* (‘Try if it be in tune’) superimposed on the collection of pitch classes shown in Ex. 8.2 above. In addition to providing a new context for ancient material, it is also a reminder of the purpose of the piece as a type of *ricercar* to test a pitch setting, whether testing the tuning of an early Irish wire strung harp, or a twelve-tone lever setting on modern lever harp. The final climactic passage uses ascending transpositions of all twelve possible ‘Prometheus’ chords, responding to their inherent tension, by voicing the complete transpositions in a variety of textures across the instrument (Ex. 8.5):
Ex. 8.5. *Chromatétude*, bars 54–57.

This leads to a 12-tone quartal chord (Ex. 8.4) before the piece comes to a gentle close on the interval of a seventh, the sum of twice a perfect fourth, which is the interval central to the chordal resources of the piece.

**How this approach to atonality lies on the lever harp: lever mechanism, chromaticism, and range**

**Lever mechanism**

In the context of the background of the lever harp described above, it is of special interest to explore chromaticism in a way that specifically exploits what the levers can make possible, but at the same time without requiring the player to change levers during playing. In terms of available tonalities, the most significant difference between the lever harp and the pedal harp is that on the lever harp each string can be individually set to one of two pitches, while on the pedal harp every string of the same letter name must be set to one of three pitches. Many composers writing for pedal or lever harp simply devise an initial pitch setting, without deviating from it in any significant way during a piece,\(^{124}\) others write for two harps,\(^ {125}\) while still others write as if the lever limitations do not exist and subsequently make adjustments in

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\(^{124}\) Eibhlís Farrell’s *An Chruit Dhraíochta* for pedal harp illustrates this approach and was premiered by Anne-Marie O’Farrell on lever harp at the Samuel Beckett Theatre, Trinity College Dublin on 7 August 2016. Farrell, Eibhlís: *An Chruit Dhraíochta* (Dublin: Contemporary Music Centre, 2002).

\(^{125}\) One of the few known twelve-tone avant-garde works in the repertoire is in fact a duet for two Irish harps by Seóirse Bodley, *Scintillae* (1975) in which each player has time to change levers while the other is playing. It was premiered by Helen Davies and Anne-Marie O’Farrell at An Chúirt Chruiteireachta, An Ghríanáin, Termonfeckin on 24 July, 1989. Bodley, Seóirse: ‘Scintillae’, *The Irish Harp Book* (Cork: Mercier Press, 1975), 211–223.
collaboration with a player. However, the challenge with the first approach of devising a setting not requiring changes is to invent one which provides sufficient harmonic interest. The combination of twelve-tone resources with a lever setting which facilitates these is a good solution, and this is what I set out to demonstrate in Chromatétude.

The term chromaticism contains the Greek word for colour, ‘chroma’/χρῶμα and this, together with use of registers and chordal layout, is the main source of colour in the piece: colours emerge from the resonances of the chosen tonality rather than from the exploration of timbral effects, as in my solo pedal harp work, Amplétude. Harmonics at the octave and twelfth are used firstly for the chromaticism they enable and secondly for their timbral colour, as illustrated in the introductory paragraph of the piece (Ex. 8.6):

Ex. 8.6. Chromatétude, bar 17.

**Range (registral and timbral)**

Although the range of my harp is A flat, to c'''', Chromatétude was deliberately written for the smaller but more widely used range of C to a flat'' in order to extend the accessibility of this type of repertoire for lever harpists.

Some comment is merited in relation to the contrast, specifically of the instrumental context, between the older received material and the new work on a modern instrument. Faigh an Gléas would have been played on a wire strung harp, and there is considerable difference between its timbral range and that of the gut strung lever harp, particularly as regards the decay of sound. I chose not to find artificial ways of imitating the much longer decay of wire strings, but instead to work within the existing natural decay of gut strings, since the modern instrument is large with an extended soundboard, and has strong resonances although the tone is quite

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126 Kolor (1999) for lever harp by Kevin O’Connell, which I commissioned with Arts Council funding, requires multiple lever changes throughout, some of which required minor adjustments of pitch or timbre to be made by the composer nearing completion of the work. It was premiered on 26 April, 2001 at Rathfarnham Parish Church, Dublin 14.
different from the older instrument. Furthermore, Bunting explains in his notes to *Faigh an Gléas* that an error of engraving means chords should be arpeggiated downwards according to what he refers to as the ancient style, rather than upwards as notated in his volume. Upward arpeggiation is far preferable on a gut strung instrument and so is maintained in the voicing of *Chromatétude*.

**Conclusion**

The types of timbral and harmonic choices discussed above in relation to bridging the old and new are part of working within today’s context of developing instruments, even when drawing on older received materials as a compositional resource. The context is both an instrumental one in terms of writing for a redesigned model of lever harp, and a compositional one in recognising the need for a wider range of musical languages in lever harp repertoire. It is both of these needs which I have sought to address in the composition of *Chromatétude*.

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127 The instrument used on the attached recording is a prototype model of the Livia harp made by Salvi, for which I was consultant to the makers in their design of a new lever harp intended as a recital instrument, as distinct from their previous lever harps, which were often considered training instruments for pedal harpists.

128 Bunting, Edward: *The Ancient Music of Ireland*, vol. 3 (Dublin: Hodges and Smith, 1840), 83, footnote A.

for B flat clarinet and piano

**Introduction**

As the only work in this portfolio for an instrument which requires the use of breath, without the capacity to accommodate text, *A Score and Thirteen* afforded me the opportunity to explore contour, texture, and line in such a way that these elements are brought into relief in a soloistic manner on an instrument known for its expressive possibilities. The range of the clarinet is wide, not only in pitch, but in colour, volume and character. Furthermore, the capacity of the clarinet to stand out as well as to blend in is something I sought to highlight at different points in the piece. I also wanted to explore the colouristic range of the clarinet in greater depth than previously in my composition by contrasting the timbre of its different ranges of the clarinet from *chalumeau* to *clarion* and *altissimo*. Although I have also written for clarinet and harp, the piano was the ideal second instrument for *A Score and Thirteen*, not only because of its range of pitch, colour and articulation, but because of its suitability for the kind of tonality chosen.\(^{129}\) Short blocks of textural contrast, differentiated colours, gestures and contours are juxtaposed in such a way that their distinctions are highlighted. The centre of the piece which comprises these shorter blocks of contrasted material is framed on either side by two paragraphs focusing on simplicity: the first almost static, made up of sparse, tiny gestures, and the second altogether more sustained and continuous, maintaining the *semplice* atmosphere but emphasising the importance of contour, particularly in the clarinet part. Underpinning this is a pitch system which is based on the image below of twenty-eight patterns of Gaudi’s so-called ‘magic square’ in the *La Sagrada Familia* cathedral in Barcelona (Ex. 9.11). A further aspect of Gaudi’s work which is represented in the piece is that of the catenary structures which form an arch. This reference is more fully explained in the commentary section concerned with contour.

In the discussion which follows, I will firstly outline the trajectory of the piece in greater detail, then address aspects of contour and texture which are integral to the identity of the piece, and conclude with an explanation of the pitch system and what it enabled in the composition of the piece.

Overall trajectory

The opening and closing passages of the piece present a *semplice* atmosphere which bookends the more colourful central section. The first of these is particularly straightforward and remains deliberately unadorned in order to create a space into which vivid and bold material will later be placed. The miniature gestures shared between both instruments from the start are restricted in range, volume and articulation, in order to highlight subsequent contrasts. During parts of this opening paragraph both instruments function as one voice and are not yet expressed as the two distinct elements into which they are shortly to diverge in the contrasting central section (Ex. 9.1).

Ex. 9.1. *A Score and Thirteen*, bars 4–6.

The central section, which is announced by a series of piano trills, is broadly suggestive of the image of Gaudí’s numerical grid, in that just as the image contains many different patterns, this section is made up of comparatively short blocks of contrasted colour. These are used to explore vibrant textures, distinctions of articulation, and lines which are fluid even as they cross many registers. For this reason, such features of the central section are more appropriately dealt with in detail in the sections below, ‘Contour’ and ‘Texture’.

The closing episode of the piece has a good deal in common with the opening paragraph so that the function of both sections is to frame the material in between. However, by this point both instruments have been the vehicle for colourful and exploratory material containing virtuosic gestures, and the sudden change from *fortissimo* to *pianissimo* in bars 70–71 heralds the final paragraph (Ex. 9.2). The earlier atmosphere of simplicity is recalled, but this time is enhanced with the added
intensity of sustained chromaticism in the clarinet across three octaves, greater use of the piano’s register, and a wider dynamic span in both instruments (Ex. 9.2).

Ex. 9.2. *A Score and Thirteen*, bars 70–73.

![Musical score](image)

**Contour**

**The Representation of an Arch**

One of the ways in which contours are brought to the fore is in the expression of an arch-like shape; this was also suggested by Gaudí’s catenary structures in *La Sagrada Familia*, where some multiple suspended chains can also be viewed in a mirror to reflect architectural shapes and design (Ex. 9.3).
Ex. 9.3. Catenary structure by Gaudi to determine pressure and compression of material.¹³⁰

The structural and dynamic arch-like shape of *A Score and Thirteen* has already been outlined, in which two gentler passages frame a central louder, more energetic section. More than a simply ternary structure, the arch principle is expressed in retrograde of pitch between both outer sections. One of the most immediately audible ways of conveying the idea of an arch is in the contour of contrary-motion melodic content as evident in two consecutive crab canons in retrograde at the close of the middle section (Ex. 9.4):

A study of the order of pitches (Ex. 9.13, below) will reveal that intervallic manipulation has been applied here, so as to facilitate the desired contours on each instrument. Use of an arch gesture is common to many composers, as exemplified in Jane O’Leary’s *Within Without* (2000) for solo clarinet, which conveys the curves of an amphora with ‘large gestures containing multiples of themselves’ as she responded in finely detailed figuration to the work of a contemporary ceramic artist.

**Questions of Register**

The registers of both clarinet and piano leave much scope for the composer to create vivid colours and interesting contours. Use of outer ranges in *A Score and Thirteen* is related to some extent to the realisation of the arch shape as described above, and finds another parallel with Jane O’Leary’s *Within Without*, which begins and ends on the lowest note of the clarinet. In *A Score and Thirteen* wide-ranging gestures on the clarinet spanning most of the instrument, are saved for the climactic passage shown in Ex. 9.9. The gentle warmth of the *chalumeau* register is brought to the fore in bars 54–56, with only occasional use made of the ‘octave’ key (Ex. 9.5).

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331 A comparison of this example with Ex. 9.13 shows the original pitches of grid 28 being used row by row from left to right, but with all intervals descending in the piano part of bar 68. The exception to the pitch pattern is the use of the lowest note of the piano, A,, since the desired F,, is not in the range of the instrument. This intervallic transformation of the original pitches is the only context in which the note B is present, since it is excluded from the original pitch set.

332 O’Leary, Jane: Programme note for *Within Without* (Dublin: Contemporary Music Centre, 2000) performed at the Association of Irish Composers’ *Echoes and Memories* concert series curated by Gráinne Mulvey, Presbyterian Church, Adelaide Road, Dublin on 19 May 2016.

Although there are numerous phrases of wide registral span, the application here is considerably different from the concentrated contrasts common in virtuosic modern repertoire which exploit differences of dynamic, register and attack. Elliott Carter’s *Gra* (1993) provides a good example of this kind of composition, because its substantially different playful and soloistic character juxtaposes strong contrasts of register and articulation (Ex. 9.6).

Ex. 9.6. Elliott Carter, *Gra*, bars 58–60.\(^{134}\)

Furthermore, the pitches in Carter are considerably more limited as it is constructed only on the all-trichord hexachord, and so it relies to a greater extent on timbral, rhythmic and dynamic contrasts for its interest. *A Score and Thirteen*, on the other hand, not only uses a partner instrument, but is also constructed mostly on a scale containing eleven pitches and so the resources of pitch and timbre are wider. The juxtaposition of different clarinet registers in *A Score and Thirteen* tends not to be accompanied by the rapid and sudden changes of timbre which are characteristic of *Gra*. Although the central section of my piece is concerned with short blocks of colour, each timbre has a somewhat longer unit of time in which to become established. Ex. 9.7 shows use of a wide registral span in a four-bar passage which maintains a single character:

Ex. 9.7. *A Score and Thirteen*, bars 50–53, clarinet.

![Ex. 9.7](image)

**Texture:**

The selected instruments create considerable scope for textural interest and colour, which comes into relief from the very start of the central section, marked out by *fortissimo* piano trills. This texture is later expanded into *tremolando* chords with simultaneous clarinet trills, at an even stronger dynamic (Ex. 9.8):

Ex. 9.8. *A Score and Thirteen*, bars 40–43

![Ex. 9.8](image)

Between these two phrases of ornamented timbres, we hear contrasts of articulation at which these instruments excel, from wide ranging accented *staccatissimo* to *piano* cross rhythms with sustaining pedal. These are placed beneath smooth curved gestures reminiscent of the legato motifs in the opening (Ex. 9.9).
The use of piano as a partner instrument means that both instruments are equally capable of diverse short, precise articulations (Ex. 9.9), while *sostenuto* and *legato* are also feasible on both, albeit in different ways. The extended lower range of the piano is a feature which is saved for just two moments in the piece, one of which forms the climactic point of the more colourful central section (Ex. 9.10).

Ex. 9.10. (also Ex. 9.4) *A Score and Thirteen*, bars 68–69.

**Pitch system**

As mentioned, this piece occasioned the exploration of a number sequence, adopted initially for symbolic purposes, and which is similar to a system applied in a section of the lever harp piece, *Chromatétude*. This is an example of one of the various approaches I adopt in my practice of applying pitch systems to generate a
cohesive musical language within a work. The method for realisation of the number sequence used for *A Score and Thirteen* is outlined below.

The image shown in Ex. 9.11 illustrates twenty-eight variants of Gaudi’s so-called magic square displayed in Barcelona’s *La Sagrada Familia* cathedral. It highlights groups of numbers in various patterns, all of which add up to thirty-three, the age of Christ at the time of the crucifixion, suggested also by the title of my piece *A Score and Thirteen* (Ex. 9.11):
Ex. 9.11. Antoni Gaudí (1852–1926), image on display in *La Sagrada Familia*, Barcelona.\textsuperscript{135}

In his article, ‘Composing with numbers, sets, rows and magic squares’ Jonathan Cross surveys the progression in the application of pitch systems and

\textsuperscript{135} Photo credit: Anne-Marie O’Farrell. Although the most well-known depiction of Gaudi’s so-called magic square is one from the Passion Wall on the outside of the building featuring only the sixteen digits in a 4x4 grid (Ex. 9.11, bottom right), the image above of twenty-eight 4x4 grids is displayed in the basement of the cathedral. In further references to the grids within this image, they are numbered from 1 to 28 from left to right in descending order of rows, for example, grid 5 is the first grid in the second row.
mathematical approaches to composition from the initiatives of Schoenberg to the present day, making the point, as did many serialist composers in the twentieth century, that it is how a system is applied to the act of composition that makes for a successful work, rather than simply its application in the first place: ‘Neither the method, nor the mathematics, nor any other system, has made the actual act of composition any easier, nor (necessarily) any more mechanical.’ The reason for these various numerical or mathematical systems is to create a resource which allows itself to be manipulated to musical ends of the individual composer, and this will be further substantiated through explanation below. My aim in using a numerical grid as the basis for a pitch system in *A Score and Thirteen* was to create cohesion of pitch use and of harmonic language, as well as to have a basis from which to invent further musical material. My use of numbers in other works in the portfolio, for example, in the prime number system in *A Memory of the Players in a Mirror at Midnight*, as well as in *A Score and Thirteen*, points to the way in which a number system can be used to set restrictions initially, acting as a framework to help the composer find the desired materials. For example, characteristic chord shapes of mine are found in three-note chords based on diagonals from the grid (Ex. 9.12):


While I have made use of devised scales both in the past and in this portfolio, these generally feature up to eight pitches. Although Gaudi’s numerical grid suggests the use of eleven pitches, almost a complete chromatic scale, it repeats numbers 10 and 14, and omits numbers 12 and 16, implying a greater presence of A and D flat, with no B. In addition to Gaudi’s repetition of two digits, the mapping of fourteen

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numbers on a scale containing twelve pitches requires expansion into the upper octave, creating repetition of C, D flat and D (Ex. 9.13):

Ex. 9.13. Numbered pitches in ascending order, including duplications and omission.

Unlike practitioners of integral serialism such as Boulez, I did not use Gaudi’s grid to govern decisions concerning such other areas as articulation, dynamics, overall line, or structure. My next step was to transfer this pattern to notation, resulting in the following (Ex. 9.14):

Ex. 9.14. Transferral of grid number pattern to pitches.

A straightforward map in sound of the entire image of magic squares is presented at the beginning of the piece up to bar 27, with notes representing the coloured numbers, and rests signifying remaining non-highlighted numbers. The purpose of this was to create a form of ‘exposition’ in which the foundational elements were presented unadorned, and in the original order. (Attempts to represent the entire image of all twenty-eight grids in musical notation on one page created an unsatisfactory result for performers and so this was abandoned at an early stage.)

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137 Boulez, Pierre: Structures I (Vienna: Universal, 1952). In the first volume of Structures for two pianos Boulez set out to create a piece devised from its own structure, by using a series each for durations, dynamics, and articulation in addition to pitch, adapting these from the earlier work of Messiaen.
In the commentary on my orchestral piece, *Spire* (chapter six) in the section headed ‘Use of the Plainchant Melody’ (p. 83–84) reference is made to Maxwell Davies’ use of the 8x8 mercury magic square in his *A Mirror of Whitening Light* for orchestra. My use of Gaudi’s numerical grid in *A Score and Thirteen* bears closer resemblance to Maxwell Davies’ application of the magic square than does my use of chant pitches in *Spire*. In both *A Score and Thirteen* and in *A Mirror of Whitening Light* a numerical grid is used in various patterns and directions as a method of generating a different order of pitch material. The following example shows the use of the clockwise and anti-clockwise spirals in the piano part to create pitch material (Ex. 9.15).

Ex. 9.15. *A Score and Thirteen*, bars 50–52.

![Ex. 9.15](image)

On occasion I found it necessary to deviate from pitches offered by the grid patterns. In bars 20 and 77, grid 20 would have suggested a diminished triad which was undesirable in the context of the soundworld already established, and so E is used instead (Ex. 9.16).

Ex. 9.16. *A Score and Thirteen*, bar 77, piano.

![Ex. 9.16](image)

A further application of Gaudi’s numerical grid is found in my chordal representation of crosses, which is less concerned with arithmetic, and more with the sound arising from representation of a cross (Ex. 9.17). Chords derived from cross shapes are used
across both instruments, in bars 65–67. For example, the boxed area in bar 65 in Ex. 9.18 traces this pattern:

Ex. 9.17. Cross-shaped extract from grid.

<table>
<thead>
<tr>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
</tr>
<tr>
<td>10</td>
</tr>
</tbody>
</table>


The figurations above are brought further into relief by the three-beat rhythmic pattern across several 4/4 bars. Representation of a larger cross shape is found early on in the piece, immediately following the opening paragraph. A change of speed, volume and texture signifies this new gesture in bars 28–31 representing the following from the grid: see Ex. 9.19 and 9.20:

Ex. 9.19. Larger cross-shaped extract from grid.

<table>
<thead>
<tr>
<th>14</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
Once again, textural colour helps to set this grouping of pitches apart from material which precedes and follows it. A point of comparison emerges here with Gubaidulina’s *In Croce* for organ and cello, in which the cross is suggested by the two voices gradually crossing over one another’s registers throughout the piece until by the close they have reversed places. Although *A Score and Thirteen* does not contain a visual representation of the cross on the score, the arch is both aurally and visually realised as shown in Ex. 9.10 above.

While the number thirty-three, the age of Christ, is central primarily to matters of pitch, the symbolic number is also briefly represented in metric terms in the combination of 8/4 and 1/16 metres, adding up to thirty-three semiquavers. This proportion is stated four times to represent the four Gospel accounts of the life of Jesus and one statement is shown here (Ex. 9.21):

Afterword

Notwithstanding the patterned nature of the numerical grid which forms the basis of the pitch system and algorithmic use in the piece, it is evident that it also leaves much room for the expression of individual preferences and musical decisions which form the identity of the work and realise the purpose of its composition. These have been realised through timbral colours inherent in the instruments, dynamic curves complementary to the character of different registers, and contour of melodic elements. The numerical pitch system applied here is one of a number of different approaches to pitch and harmony illustrated across various works in the portfolio, ranging from devised scales and intervallic structures to families of chords. These various techniques serve the purpose of achieving a unified language within each work, voiced in a musical dialect recognisable as my own. The place of this work in the portfolio is to add to the demonstration of a wide vocabulary of systems, so that my practice is pushed beyond the familiar by developing previous work. The use of numbers in my composition is neither new nor experimental, but what is wrought here is a deepening of previous practice, by extending the use of numbers into a more rigorous way of generating pitch material.\textsuperscript{138} While at first glance the approach to pitch may appear to be in strong contrast with other works in the portfolio, the musical context in which it was applied also conveys a consistency of compositional identity. This is realised in the form and structure of the work, and in the way of using the two chosen instruments, maximising their inherent timbral possibilities and character.

\textsuperscript{138} Earlier works of mine which rely on the use of numbers include \textit{A Chalice Prayer} and \textit{A Paten Prayer} (2010), which illustrate use of numbers and proportions relating to window and labyrinth design in Chartres Cathedral. The premiere performance was by the commissioner Mark Keane conducting the Tribal Chamber Choir, Cork International Choral Festival Honan Chapel, University College Cork on 30 April, 2010.
Introduction

This work is an exploration of the dramatic possibilities of the solo cello, and is inspired by two contrasting pieces of visual art—a mural of a teenage boy in Limerick city and a Marian icon. Mary is represented in higher, more sustained and almost vocal passages, while the boy is expressed in the lower register of the instrument through energetic rhythmic patterns across irregular metres which never quite settle—until the close of the piece, that is, when the two voices meet, across both registers, and come to rest. The content exploits features of rhythm, register, timbre and atmosphere to present and subsequently merge musical representations of these two personae. The cello is well placed for this, since it is one of the few instruments which encompass the ranges of both the male and female voice. Use of the instrument’s timbral range is incorporated into the respective atmospheres of the two musical portraits. What follows below is an explanation of the background provided by the artworks for the piece, how the two identities are represented on the cello, and treatment of harmony in a solo instrumental context.

The Visual Artworks forming the Background of the Piece

Since the piece was composed as part of a residency in composition at a third level college in Limerick, Mary Immaculate College, I wanted there to be some association with the institution, known locally as ‘Mary I’ and having a strong Roman Catholic ethos. This led me to the connection with the gaze of Mary as expressed in Marian iconography: the gaze is of paramount importance, sometimes drawing the viewer in, and sometimes focusing on the Christ-child. At around the same time as my residency began, artist Joe Caslin had been commissioned in 2014 by the Arts Council of Ireland to create three murals for the city. One of these, on Limerick’s Dock road, was an image of a young male adolescent wearing a white hoodie, which, when viewed from some distance, was not dissimilar to traditional images of Mary veiled in white. At closer range, the image of a teenage boy becomes clear, as he gazes intently, perhaps expressing a sense of being disenfranchised. The
importance of the image of a hooded youth featuring in a Limerick mural resonates with part of the city being known for its gangs and violent traveller feuds. It is significant that part of the response to this is in the form of state-funded street art (Ex. 10.1).

Ex. 10.1. Mural from *Our Nation’s Sons* on Limerick’s Dock Road by Joe Caslin.

As a counterpart to Caslin’s image I chose an icon of Mary by Munir Alawi, which is in colour, with light reflected from Mary’s face and hands, and in which Mary’s vivid robes illustrate her rounded figure with an earthiness and sensuality often absent from such devotional images (Ex. 10.2).\(^{139}\)

\(^{139}\) On the accompanying video of the performance, visuals were used in the live presentation. The visual artist designing the accompanying video, Mihai Cucu, was unable to collaborate with me on the type of Marian icon used, or on the content of each section of the piece, and so images are not always aligned with the representative section of music.
These two pieces of art, which form the background to the piece, have diametrically opposing relationships with the passage of time: Caslin’s mural (one of three in Limerick City) was designed to fade naturally, and is now no longer visible; icons, on the other hand, are designed for centuries of use, being made from materials suited to such longevity.

**Representation of the two portraits on the cello**

These two figures, the teenage boy and Mary, are expressed quite differently on the instrument and their delineation is expressed by contrasts of register, rhythm, articulation and atmosphere. Because the boy’s facial expression in Joe Caslin’s image is quite neutral, it is open to interpretation: in the opening paragraph (bars 1–44) the musical imagery is characterised by youthful vigour and aggression, syncopated rhythmic drive and gritty contrasts of timbre (Ex. 10.3):
Ex. 10.3. *In Mary’s Eye*, bars 39–44.

Some parallels may be found here with Penderecki’s *Capriccio per Siegfried Palm* (1968) in which rhythmic material in the lower registers exploits the character of sound achieved with *am Frosch* bowing, and aggressive double stopped seconds, with rhythmic repetitions.⁴⁰ Although *am Frosch* is not specified in my piece, it is implicit in the nature of some passages, for example, in bars 39–41 of Ex. 10.3 above. Vigorous double stopping and rhythmic repetitions are of greater thematic importance in my piece to represent the boy than they are in the work by Penderecki where their role is more intermittent. This kind of characterisation provided me with an appropriate opportunity to use a variety of types of *pizzicato*, including normal, Bartók, *glissando* and arpeggiated (Ex. 10.3).

The persona of Mary is suggested in the high, *cantabile*, song-like passages, which are slower and sustained. In contrast to the speed and atmosphere of paragraphs representing the boy, the momentum in the passages relating to Mary (bars 45–83) is created by the melodic phrasing, containing wide-ranging dynamics and arcs of arpeggio figures creating harmonic progressions (Ex.10.4):

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⁴⁰ Penderecki, Krzysztof: *Capriccio per Siegfried Palm* (Mainz: Schott, 1972).
The vocal nature of the *cantabile* passage (Ex. 10.5) below shows the influence to some extent of John Tavener’s *The Protecting Veil* (1987) in which the solo cello is used to represent Mary, with much of its material highlighting the instrument’s upper register (Ex. 10.6).\footnote{Tavener, John: *The Protecting Veil* (London: Chester, 1993), 15.}

Ex. 10.5. *In Mary’s Eye*, bars 45–50.


Although the excerpt from my piece shown in Ex. 10.5 is *cantabile* and *legato*, the bow direction is changed more frequently than in the Tavener work, to maximise the player’s options for speed of and weight on the bow. This also gives slightly more definition to the ornaments in my piece. A further difference between my writing here and that of Tavener is that I did not find it necessary to use microtones as he did in his recreation of the break in the voice in Byzantine chant, as shown in the last bar of Ex. 10.6 above.

My piece is comparable with David Fennessy’s *Five Hofer Photographs* (2012) in that both works show responses to visual art using unaccompanied cello.\footnote{Fennessy, David: *Five Hofer Photographs* (Vienna: Universal, 2012). Premiered by Martin Johnston of Concorde on 22 July, 2012 in the Gallery of Photography, Temple Bar, Dublin as part of Concorde’s *Up Close with Music* series.} The significant contrast lies in Fennessy’s formation of five separate short movements for each image, as opposed to my combination of the ideas from two images in a single movement. The merging of the two personae is most evident in the final paragraph of my piece from bar 84 to the end. The following example illustrates the initial merging of contrasting character (Ex. 10.7):
Treatment of harmony on unaccompanied cello

The possibilities of unaccompanied cello have long been explored by composers seeking to showcase the instrument’s capacity to marry harmony with line. Today’s successors of Bach’s solo cello suites are found in those of Benjamin Britten, and more recently in solo cello works by George Crumb, Krzystof Penderecki and the colourful studies of Aaron Minsky.143 Harmonic expression on the cello is nevertheless restricted by the very nature of the instrument, as well as by the pitches of the open strings. One dimension of my exploration of harmony in the piece is based around recurring and contracting intervals, as illustrated further below, and another is the prioritisation of the open strings to create a pitch hierarchy. On this subject Susanni and Antokoletz write: ‘Tonality depends on the unequal division of the scale, while the dissolution of tonality depends on symmetrical subdivision of the octave’.144 Reflecting the tendency in my composition to lie between these two ends of the spectrum, that is, if indeed they may be considered respective ends of the same spectrum, I assign greater importance to the four open strings in the pitches used for In Mary’s Eye, to exploit the instrument’s inherent characteristics and idiom more fully. The prominent roles of the open A and C strings is illustrated in the excerpt at Ex. 10.3 above. This compares with several examples of similar exploitation of open strings in Viktor Suslin’s Chanson contre Raison, also for unaccompanied cello, as illustrated here (Ex. 10.8):

Scordatura of the low C string used by Suslin (Ex. 10.8) is a feature I chose not to use on this occasion, partly due to the length of the piece, but also because of the programming decisions which can ensue for a player as a result. Nevertheless, in my assignment of greater importance to the open strings, the low C—albeit a note without vibrato—remains consistently important throughout, from its provision of the *acciaccaturas* in the opening to the very last note of the piece.

Harmonic colour is achieved throughout *In Mary’s Eye* in the use of multiple stopping, broken arpeggios, and *glissandi* on the harmonic series provided by open strings. In the use of such effects on the cello, the clear relationship between harmonic and timbral effects is made evident. In many instances the harmonic choices made are influenced by the pitches of the open strings, whether it is the way in which double stopped chords lie on the cello, or as shown here, the additional possibility of *glissandi* of natural harmonics (Ex. 10.9).

One of the characteristics inherent in the cello is the availability of double stops (as distinct from one of two notes being an open string) comfortably up to an interval of a sixth (Ex. 10.10).^{146}
In Mary’s Eye, bars 106–107.

This is an interval of double stopping which recurs particularly frequently in a range of solo cello repertoire, including in the opening movement of George Crumb’s Sonata (Ex. 10.11):

Ex. 10.11. George Crumb, ‘Fantasia’ from Sonata, bar 23.\(^\text{147}\)

In addition to the innate hierarchy of pitches provided by the cello, I give prominence in my piece to certain intervals, namely to seconds, diminished fifths and sixths, particularly in the vertical use of harmonic intervals (Ex. 10.12):


Intervals are not only treated vertically however. Melodic transformation and expansion is shown in the following excerpt (Ex. 10.13) and two musical examples (Ex. 10.14 and Ex. 10.15), in which contour and linear development also reveal harmonic progression, in some cases using intervals other than those mentioned above:

\(^{147}\) Crumb, George: Sonata for Solo Violoncello (New York: Peters, 1958), 3.
Ex. 10.13. *In Mary’s Eye*, bars 27–32.

These next two examples isolate motifs to highlight the harmonic progressions contained in the excerpt above. Ex. 10.14 below shows how the uppermost motif climbs in minor seconds, alternating with inversion, at the beginning of each bar between bars 28 and 32:


In the second half of each of these bars (28–32), intervals are contracted in the middle to low register, beginning with a major seventh and contracting to a third, heard as a tenth (Ex. 10.15).

Ex. 10.15. Contracting intervals from bars 28–32.

This demonstrates the capacity of the cello to show harmonic progression in a way that is integral to melodic development. The essential role of harmony in writing for a solo instrument is cited by Judith Weir: as she points out, it is not just that a string instrument can play a chord, but that the line itself creates it.\

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Conclusion

Writing for unaccompanied cello provided the opportunity to approach harmony and timbre differently than when writing for other instrumental combinations presented in my portfolio. This created the possibility of further exploring timbre for which the visual art provided a platform and stimulus. The adoption of such a focus encouraged greater utilisation of idiomatic features, which in this work highlight the powerful expression possible, for example, at the upper range of the A string, in addition to a wider range of bowing styles, articulation and effects as illustrated above. The absence of an accompanying instrument necessarily brought the colour and timbral potential of the cello into stronger relief, creating a density of contrasted sonorities. So far the work has shown itself to be a flexible one in terms of programming, as it has been included in a variety of performance and recital contexts, receiving multiple performances since its premiere.
Sources


Bach, Johann Sebastian: *Solo cello suites* BWV 1007–1012 (Frankfurt: Peters, n.d.).


Ball, Derek: *Síle na Sléibhte* (Dublin: CMC, 2012).

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**Interviews:**

Interview by Evonne Ferguson with Kevin O’Connell as part of the New Music Dublin Festival, John Field Room National Concert Hall, 1–3 March 2013.

Interview by Anne-Marie O’Farrell with Joyce scholar, Bruce Arnold, Dublin, 9 September 2014.