Cyclical Structures and the Organisation of Time

A commentary on my recent compositional work

Bryn Harrison

A portfolio of original compositions and commentary submitted to the University of Huddersfield in partial fulfillment of the requirements of the degree of doctor of Philosophy

June 2007
Contents

Table of Examples.................................................................................................................. iv

Acknowledgements................................................................................................................ vi

Abstract.................................................................................................................................. vii

Preface...................................................................................................................................... viii

Chapter 1: Dealing with time: an overview................................................................. 1

  1:1 Introduction................................................................................................................... 1
  1:2 Background................................................................................................................ 2
  1:3 Memory and repetition........................................................................................... 4

Chapter 2: The music: general considerations......................................................... 7

  2:1 Pitch organisation..................................................................................................... 7
  2:2 Rhythmic organisation............................................................................................ 13
  2:3 Combining melodic and rhythmic processes....................................................... 18
  2:4 Notation.................................................................................................................... 21
  2:5 Form and structure.................................................................................................. 24
  2:6 Texture, density and timbre................................................................................... 26

Chapter 3: Commentary on the Pieces........................................................................... 30

  3:1 etre-temps (2002).................................................................................................... 30
  3:2 low time patterns [#1-5] (2002)........................................................................... 39
  3:3 Rise (2003)............................................................................................................. 49
  3:4 six symmetries (2004)............................................................................................ 56
  3:5 four cycles (2003-2005)........................................................................................ 65
  3:6 shifting light (2006)................................................................................................. 81

Chapter 4: Process and Intuition................................................................................. 86

Chapter 5: Conclusion................................................................................................. 89

Bibliography....................................................................................................................... 92

Appendices......................................................................................................................... 94
Table Of Examples

Example 1: Repeating pattern of tone – tone – semitone…………………………………………….8
Example 2: Opening piano chords from Morton Feldman’s Spring of Chosroes (1977)………………….11
Example 3: Octatonic scale (Messiaen’s ‘second mode of limited transposition’)…………………………11
Example 4: Permutation on the octatonic scale……………………………………………………………….12
Example 5: Fully chromatic pitch set derived from tone – semitone pattern……………………………….12
Example 6: Chords derived from contiguous notes within the chromatic scale……………………………12
Example 7: Sound groupings as illustrated in Morton Feldman’s essay ‘Crippled Symmetry’………………………………………………………………………………………………15
Example 8: Use of compression and expansion in Ferneyhough’s essay ‘Duration and Rhythm as Compositional Resources’ …………………………………………………………………………………16
Example 9: Sketch illustrating rhythmic groupings within and across the bar………………………….17
Example 10: Repeat in the middle of bar 57 from etre-temps………………………………………….33
Example 11: Nicholas Cook’s ‘Analytical “form chart” for etre-temps’…………………………………….34
Example 12: A comparison of pages 1 and 3, and 2 and 4 respectively of etre-temps………….36
Example 13: Initial set of points for bars 145-149 of etre-temps……………………………………………37
Example 14: Showing how these points were then re-translated into actual rhythms……………….37
Example 15: Selected pitches for woodwind and strings, low time patterns #1…………………………….40
Example 16: Examples of pitch cycles for movements #1 and #4…………………………………………….41
Example 17: Tempo relationships for the five movements of low time patterns [#1-5]……………….42
Example 18: Note distribution in the woodwind parts for the opening of low time patterns [#1-5] ………………………………………………………………………………………………….43
Example 19: Pitch charts used in low time patterns #2 and #4………………………………………………45
Example 20: Note distribution in the woodwind parts for the opening of low time patterns #3…………47
Example 21: Comparison between bars 1–5 and bars 326–330 of Rise…………………………………50
Example 22: Graph showing the harmonic range for ascending scales in Rise, bars 1–127………51
Example 23: Pitch changes for the piano part in Rise, bars 1 – 6………………………………………….52
Example 24: Pitch ranges for the piano part in Rise, bars 17 – 23………………………………………….52
Example 25: Comparison of the material used in the piano part for Rise, bars 81–85, 93–97 and 106–110……………………………………………………………………………………………….53
Example 26: Repeated cycles, *Rise*, bars 1 – 62 ..................................................54
Examples 27: a, b, c and d: Sketches for Riley curves ...........................................58, 59
Example 28: Outline for the rhythmic structure of the opening of *six symmetries* ........60
Example 29: Overall pitch scheme in *six symmetries* ..........................................63
Example 30: Comparison of a 12-note and a 24-note pitch cycle, *four cycles*, first movement ....67
Example 31: Instrument cycle, first movement of *four cycles* ................................68
Example 32: Opening pitch cycle, *four cycles*, first movement ................................69
Example 33: Combined pitch and instrument cycle, *four cycles*, first movement ..........69
Example 34a and b: Geometric curves for the ascending pitches (over 3 bars) in the string parts, *four cycles*, second movement ............................................................71
Example 35: Similarly constructed curves compressed into 2 bars ............................72
Example 36: As above, expanded over 2.5 bars .........................................................72
Example 37: As above, expanded into 3.5-bar units ..................................................73
Example 38: As above, expanded into 4-bar units .....................................................73
Example 39: Division of 15-bar measures through *four cycles*, movement II ............74
Example 40: Single pitch played as a staggered entry on four different instruments ....75
Example 41: Three variations of dynamic contrast ....................................................76
Example 42: Pitch scheme of opening two pages, *four cycles*, movement III ............77
Example 43: Variations on the pitch scheme outlined in Grid A .................................78
Example 44: Initial pitch cycle for *four cycles*, movement IV ..................................79
Example 45: Macro cyclical scheme for *four cycles*, movement IV .........................80
Example 46: Harmonic scheme, *shifting light*, showing the ten-stage reduction of pitches from 12 to 3 notes .................................................................82
Example 47: Three part canon, *shifting light*, bars 1 – 7 .......................................83
Example 48: Four part canon, *shifting light*, bars 15 – 21 .......................................84
Acknowledgements

I would like to thank my supervisors Prof. Richard Steinitz, Prof. Michael Clarke and Dr. James Saunders for their help and encouragement during the completion of this thesis, and to all the friends and colleagues who have offered advice and support over the five year period when these pieces were written including, Stephen Altoft, Joanna Bailie, Gavin Bryars, Laurence Crane, Joe Cutler, Mary Dullea, Susanna Eastburn, Christopher Fox, Jim Gardner, Geoff Hannan, Simon Holt, Anton Lukosziewieze, John McDowall, Darragh Morgan, Stephen Newbould, Tim Parkinson, Jonathan Powell, Matthew Shlomowitz, Andrew Sparling, Alan Thomas, Philip Thomas, Mike Walker, Scott Wilson, John Woolrich, the British Music Information Centre and the Huddersfield Contemporary Music Festival.

A very special thanks to my wife Jane and my children for their loyal support and patience during the completion of this work.
Abstract

My commentary will consider how I have attempted, in the music written over the last five years, to deal with musical time on a moment to moment basis and how this aesthetic concern has led to a largely non-goal orientated approach to form and structure. In order to do so and by using specific examples from selected pieces, I will examine the main aspects of my musical language and discuss how these techniques have evolved and changed over a five year period. Additionally, I will discuss my use of musical notation and, in particular, try to illustrate how this has been used not only as a means of sonic documentation but as an integral part of the compositional process itself. This investigation into the visual appearance of the work will also take into account the influence of visual art and, in particular, the work of certain abstract painters from the world of minimalism, op art and abstract expressionism (most notably Bridget Riley and James Hugonin). Taking the standpoint that these artists represent for me an art of equivalence I will aim to demonstrate how this visual work has not only helped define my aesthetical standpoint but has, on a technical level, had a very immediate effect on the way I work.
The following commentary and accompanying scores and recordings represents a by-no-means exhaustive survey of my published music. A more extensive study would include pieces written to prior to 2002, additional chamber pieces written over the last five years as well as works made in collaboration with visual artists Mike Walker and John McDowall. Instead, I have chosen to focus on recent pieces which follow and exemplify a central line of enquiry, namely how I am attempting to deal with musical time from an essentially non-goal-related perspective. The included pieces can be seen as outlining the development of this particular aesthetical stance and illustrate how, for instance, a singular approach to intervallic structures has emerged over a five year period.

It should be noted that none of the included works were written with a PhD in mind. This, of course, has the advantage that each piece was constructed on purely musical (rather than subconsciously analytical) grounds but carries with it the disadvantage that some of the relevant charts and analytical information that would normally accompany the writing of a thesis have had to be constructed retrospectively. Where original sketches, diagrams and charts have been available, I have chosen to present these in their original form, thus preserving the purpose for which they were intended - namely to allow me to utilise a particular approach to spatial organisation or to keep check on a particular compositional process or strategy.
Having to embark on the analysis of past works however has given me fresh insight into my own working methods. Rediscovering, for instance, a particular approach to rhythmic or melodic organisation within a specific piece has allowed me to revisit these pieces with a fresher perspective and has rekindled an interest in certain compositional procedures that have lain redundant for some time. These, in turn, provide fertile ground for future musical developments. Some of these methods are outlined in the final chapter.
1. Dealing with time: an overview

Does time exist in music or does music exist in time?¹

1.1: Introduction

All music, consciously or unconsciously, could be said to be concerned with the notion of time. Since music has to exist both in and through time, duration (however long or short) can be taken as a pre-requisite for all musical experience. Over the last twelve years, however, I have tried to make the perception of time passing the focus of my study and this, I would argue, has provided the main musical impetus for the compositions presented here. My main area of interest has focused on the passing of time from a non-teleological standpoint. What happens when time is presented in such a way that it appears to be drastically slowed down or even momentarily suspended? What happens when a sense of musical progress becomes redundant and how, as a composer, does this affect my approach to musical language, form and structure, both on a micro- and macro-level?

The quotation from Kramer cited above seems relevant since it suggests that our experience of time passing might be governed by both the language of music itself and the external factors that surround it. One thing that seems certain is that listening to music can give us the experience of a visceral or even tactile dimension of time that is not possible through mere speculation or pure
theoretical discourse. Indeed, when one attempts to give a literal description of time one runs into certain paradoxes and difficulties. As the psychologist Masanao Toda has observed, "There is nothing in this world that even remotely resembles time."² Perhaps time, therefore, is only really understood when experienced first hand. As Susanne Langer has said, music "makes time audible."³

1.2: Background

My initial interest in the ways in which time functions from a musical perspective came from discovering the work of Olivier Messiaen whilst an undergraduate at the City of Leeds College of Music (1989 – 1991). In particular, the *Quartet for the End of Time* (1941) and the *Turangalila Symphony* (1946 – 1948) seemed to allude to a sense of timelessness and I was subsequently drawn to the music of the Japanese composer Toru Takemitsu for similar reasons. Partly through Takemitsu’s writings I became interested in the differences between Eastern and Western attitudes to time and, in particular, the Zen notion that the only time is the present one (see 3:1). As Takemitsu has stated:

Whereas in the West time is perceived as linear, in the East, time is perceived as a circulating and repeating entity.⁴

Similarly, in the essays of the late Mexican poet and former Ambassador to India, Octavio Paz, I encountered a similar critique of these differences.
However, it was discovering the music of John Cage in 1991 and later the music of Morton Feldman in 1993 that had the greatest impact on my compositional thinking. Cage’s Eastern-inspired philosophy, his ideas on non-intention and, in particular, the embodiment of this approach through 4’33″ (1952) and the late 'number pieces' suggested to me a then unorthodox view of musical form and structure in which each sound might be given its own life, its own entity. Through listening to CD recordings of Cage I began to experience music on a moment-to-moment basis free from a dialectical time governed by progress and all the other rhetorical devices that traditional Western musical language implied. I began to understand how music might be understood without any affective connotations, without any reference to things other than itself.

Around this time I was also becoming increasingly interested in 20th Century American abstract art and in particular the reductive language of abstract expressionism and minimalism. Upon first hearing the music of Morton Feldman I was struck by the similarity in texture, form and non-gestural language to the paintings by Rothko, Reinhardt and Motherwell that I had so come to admire. Perhaps paradoxically, it was the long, late pieces of Feldman (which require the prolongation of musical time rather than the direct negation of it) which seemed to best encapsulate this reductive aesthetic. During the following year (1994), when embarking on an MA at De Montfort University, I was encouraged by mentor Gavin Bryars to follow this path, which resulted in a short dissertation on the long, late works of Morton Feldman. Through this study I was able to gain
access, via Robert Hahn in the promotions department at Universal Edition, to all the published late works of Feldman (as well as various unpublished articles and source material) in order to conduct a personal detailed survey of his music.

1.3: Memory and repetition

What Feldman's music suggested for me was an approach free from large-scale organisational concepts in which the musical material itself would allow for a physical, objectified presence. As the composer Brian Ferneyhough has stated:

When we listen intensively to a piece of music there are moments where our consciousness detaches itself from the immediate flow of events and comes to stand apart, measuring, scanning, aware of itself in a 'speculative time-space' of dimensions different from those appropriate to the musical discourse in and of itself.\(^5\)

For me, the use of repetition became of prime importance in allowing me to create what the American playwright Richard Foreman has described as "the work of art as primarily a structure for articulating its mode of being-present."\(^6\) As demonstrated in the early minimalist music of Steve Reich and Philip Glass or indeed in the paintings of Bridget Riley, repetition is at the root of both movement and stasis. As Bridget Riley has stated, "on the one hand it acts as a sort of amplifier: making active events that might otherwise go by barely unnoticed"\(^7\) whilst, on the other hand, it is capable of arresting any direct sense of development through time. Repetition, I discovered, can make music present
simply by being reiterative. Feldman creates a playful approach to this premise through a conscious attempt at "formalising a disorientation of memory"\textsuperscript{8} in which he would "have the same thing come back again, but ... just add one note"\textsuperscript{9}; repetition as 'near repetition'.

Additionally, as Feldman’s late music exemplifies, our perception of high-level repetition changes the experience of what we hear: the sequence of unchanging (or only slightly differencing events) begins to take on a life of its own, becoming almost larger than the sum of its parts. The accumulative effect creates, what the Austrian composer Bernhard Lang has perceptively described as, "a kind of third dimension emerging out of the two-dimensionality of a rotating disc."\textsuperscript{10}

I began to consider how these present, reiterative moments might collectively act as a sort of 'time-continuum': a designated space in which the musical events might be subtly elongated or contracted through time, offering multiple perspectives or differing points of observation. As will be discussed in the following chapter, this was to have considerable bearing on my particular approach to musical material, form and structure, and my subsequent development as a composer.

2 Masanao Toda, cited in Ibid., 5.

3 Sussane Langer, cited in Ibid., 1.


2. The music: general considerations

2.1: Pitch organisation and cyclical processes

For the musical analyst, even a cursory glance at any of the enclosed scores would reveal a highly simplistic approach to pitch organisation. In several scores, the pitch organisation used throughout the piece could be deduced from a single page. *etre-temps*, for instance, uses the same six pitch classes throughout and all the other pieces are constructed from clearly discernible repeating patterns of pitches. There is no attempt to conceal the pitch material or subvert the processes being used. To quote the minimalist dictum: "what you see is what you see". My conviction in taking such a simplistic approach to pitch organisation has developed directly from the need for what I perceive to be:

i) Musical coherence and clarity.

ii) The implications of working with cyclical structures.

iii) A balance with a more 'complex' approach to rhythmic organisation.

iv) An overall sonic field that contains a lack of harmonic differentiation.

In order to work with musical forms that can be compressed or attenuated from one moment to the next I have found it necessary to use musical material that can withstand a degree of flexibility or manipulation. I have found extremely simple, repeating patterns that contain a coherence of step-wise pitch intervals to be the most effective way of maintaining musical consistency. Since the year 2000 I have been organising repeating sequences of pitches into cycles of varying length to create clearly perceptible melodic lines which display a clear sense of movement or linearity:
Example 1: Repeating tone – tone – semitone pattern

If one was to describe the example above in terms of a Markov chain, one could say that my choice of pitch relations illustrates a chain of the highest order since each antecedent leads directly to its most probable consequent event. As Kramer has stated, "the higher the Markov order, the more pervasive the linearity". Whilst the encapsulation of such an approach might suggest a more teleological standpoint, for me, an important organisational principle is that, by arranging these pitches into circular structures, it is possible to take away a sense of moving towards an objectified, future goal but imply, instead, the notion of always returning to a starting point. It might even be said that - in the context of these works - with the additional absence of a key centre (or often even a central pitch), the very notion of returning “to their starting point” becomes redundant since the music is always in a state of becoming and, as a result, always at its own centre. The suggestion, instead, is of musical flow, of music that has motion, within the context of a largely immobile object. As I stated in an interview with James Saunders:

I try to make each cycle have an internal logic (i.e. [through the employment of] simple repeating intervals) that is clear to the ear but then manipulate the patterns in a way that is disorientating to the listener. Here, I think, there is a sense of implied motion within the cycles but not of musical progress. There is more a feeling of going round in circles, literally.

The pitch cycle, therefore, can be seen as both a static object and as a self-generating process. My intention has been to try and reach an equilibrium between stasis and motion comparative perhaps to the motion of a river or a waterfall. A similar sense of flow within the prolongation of time is exhibited in the early minimalist works of Philip Glass
and Steve Reich, which also demonstrate a reduction of the high information content of traditional Western music. Here, however, the continuity comes from the use of short motifs placed within a highly repetitive context - a kind of non-gestural figuration - whereas in much of my music the figure, or gesture, is not as clearly stated since each note within the pitch cycle leads directly to the next and thus takes away the sense of going back to the start of a phrase. In all of this work, however, the 'field condition' which was so prevalent in much of the 'open' form work of the 1960s and 1970s is negated by a sense of linearity or flow. From the point of view of Kramer's categorisation of time, this approach becomes problematic since it does not allude directly to the notion of a vertical time - in which events happen within a static time frame - or a horizontal (goal-related) time. I propose instead, the notion of a \textit{curved time} in which one perceives the flow of the music in the same way that one might follow the trajectory of a circle - a clear sense of motion can be apprehended but without the emphasis on a longer-term end or goal.

My choice of intervallic sequences has been consistently and straight-forwardly systematic, deriving, almost exclusively, from simple binary number sequences (i.e. those that produce an alternating interval class of 1 and 2). Therefore, the pitch cycles that I have used extensively comprise adjacentedly located scale tones which are either presented linearly (in alternating tones and semitones, for instance) or treated as a pitch set and dispersed across several octaves. For me, the consistent internal relations between these pitch classes help preserve melodic consistency whilst maintaining a feeling for symmetry, balance and proportion. Once these pitch cycles have been subjected to octave transposition, hocketed, combined with rhythmic processes or woven into the very fabric of the music, it seems that we tend not to perceive these pitch structures as belonging to such a regularly ordered cycle, but instead retain a sense of some kind of coherence within the musical structure. This, for me, produces a satisfying situation, since it seems
the integrity of the process can be preserved without the results seeming banal or overly predictable. Diana Deutsch, in her research into musical perception and paradoxes, has observed that it becomes difficult to recognise melodies when notes are transposed in different octaves. This offers the possibility of combining the same chain of pitches in many different registers, thus creating multiple-perspectives of melody whilst preserving the integrity of the original pitch set. This can also be seen in the late works of Morton Feldman in which the same chords are repeated but re-ordered according to octave transposition:

Example 2: Opening piano chords from Morton Feldman’s, *Spring of Chosroes* (1977)

My first encounter with a symmetrical approach to intervallic structures came through the music of Olivier Messiaen. His use of modes of limited transposition and in particular the octatonic scale (Messiaen’s second mode of limited transposition) still seems pertinent to my musical thinking today:

Example 3: Octatonic scale (Messiaen’s ‘second mode of limited transposition’)
The pitch cycles below can be seen as basic permutations of the Messiaen scale:

Example 4: Permutation on the octatonic scale

Naturally, moving up the scale by a tone, followed by a semi-tone and then back down by a tone produces a fully-chromatic pitch set within the range of a minor third, thus suggesting an atonal rather than, as in the case of Messiaen, a modally derived musical language:

Example 5: Fully chromatic pitch set derived from tone – semi-tone pattern

Similarly, chords when condensed within an octave, can be seen to derive from notes adjacentlly placed from chromatic or sometimes diatonic scales:

6: Chords derived from contiguous notes within the chromatic scale

Kyle Gann, outlining a similar approach to harmony in the music of Conlon Nancarrow, has said that these chords, like the linear melodies, "are not functionally
differentiated but display equalizing tendencies" resulting in a pan-chromatic harmonic field when combined or, when presented in clear succession, giving the impression of residual harmonic motion within a confined space.

Since beginning work on *four cycles* in 2003 I have become increasingly interested in the way in which our perception of time passing is governed by rates of harmonic change. Through employing the very straightforward use of the chromatic scale (see 3:3 *Rise* and 3:5 *four cycles*, second movement) I have been able to measure the constant flow of time along a single upward trajectory. The resultant pitches produce the feeling of a continual leading note or unresolved harmonic tension (the antithesis perhaps of Feldman - music of free-association) and a kind of musical vertigo.

### 2.2: Metre, duration and rhythmic organisation

From the perspective above, it is evident that the success or failure of this music lies partly in the ability of the composer to engage the listener on a moment-to-moment basis. This emphasis on a kind of perpetual present has led me to look in more detail at the fabric of the music and to adopt a close perspective view, akin to what Roger Reynolds has described as "a magnified sonic stream". What interests me is being able to project a greater level of detailed articulation between successive events by utilising a more detailed approach to rhythmic organisation. With music that is largely non-directional in nature, and therefore without reliance on musical stresses or downbeats, it is possible to adopt an approach to spatial organisation in which the bar line no longer serves its more traditional time keeping function. Instead, one might view a measure not as a unit of emphasis but as a designated space of a particular size in which to 'contain' musical material.
Feldman refers to this in his essay 'Crippled Symmetry' as "rhythmic framing". He says it is "a bit like Mondrian not wanting to paint bouquets but a single flower at a time". This suggests to me that his intention is to make each individual musical event more poignant by the space that surrounds it. Therefore, from a musical point of view, the absolute placement of the event in relation to the bar is crucial to its articulation. For Feldman, the resultant sound groupings, in which notes are contained within a bar of a particular size, result in a disproportionate or 'crippled' symmetry (an idea arrived at from his interest in Near and Middle Eastern rugs), in which each sound grouping is unique to itself and may, at any given time, break off into something else:

Example 7: Sound groupings in Morton Feldman’s essay ‘Crippled Symmetry’

Although coming from a very different musical tradition to that of Feldman, Brian Ferneyhough describes not dissimilar strategic procedures in his essay ‘Duration and
rhythm as a compositional resource’. Ferneyhough is more interested in the levels of compression or attenuation (and the perception of the resulting density) that might be achieved through containing the material within bars of different sizes. He describes the way in which our regular sense of clock time can be supported or subverted by the inner-clock of particular metric space. Here, regular clock time refers to the pulse established by the given tempo of the music and the inner-clock refers to the level of compression or expansion that is created through the use of a particular irrational ratio:

Example 8: Use of compression and expansion in Ferneyhough's essay, 'Duration and Rhythm as Compositional Resources'.

Ferneyhough's approach is largely teleological. As Richard Toop has stated, "In Ferneyhough's work ... the irrational values are generally a means of redefining the overall rhythmic flow from one bar ... to the next". In both Feldman and Ferneyhough, however, the primacy of creating sound groupings of this sort is still towards the observation of time passing. As Ferneyhough has written:

By continually remodelling, stretching, twisting or compacting the relationship of material, meter and process one can...([keep] the subjective sense of time passing permanently on edge, both for the performer and the listener.
This can be compared with the approach of Feldman, who said that:

The compositional concentration is solely on which pattern should be reiterated and for how long, and on the character of its inevitable change into something else.

What both Feldman and Ferneyhough outline therefore is a particularly rigorous approach to temporal organisation in which each bar becomes a magnified event. Documenting the approaches of both these composers seems relevant to this commentary since they highlight interesting perceptual similarities yet differences in approach when dealing with the issue of time. What these techniques represent are formal processes; compositional tools that allow the composer to make considered choices as to the temporal organisation of material within the limitation of a given space.

From my own experience, I have found that when one works with such a magnification of time, one is constantly going through a process of reappraisal of the materials being used and their relationship to the bar. The choice of metres themselves and the way in which the sound groupings become contained within these bars becomes a working method, a way of organising time. A simple example will illustrate this point further:

Example 9: Sketch illustrating rhythmic groupings within and across the bar

In the above example the triplet figure is retained from one rhythmic grouping to the
next, whilst the figures themselves become altered by their relationship to the bar.

In a commentary of this size it is only possible to give a brief description of my approach to rhythmic organisation. What should be apparent, however, from the following commentary on the works themselves is that spatial organisation is usually deduced from some kind of geometric scheme or underlying proportionate number system which often outlines a spatial representation of where events will occur in time. For this reason I very often work on graph paper, plotting the position of notes, and then subsequently convert these back into standard notation through the use of a grid system like that illustrated in examples 13 and 14 of the following chapter (page 37).

2.3: Combining melodic and rhythmic processes

Although created separately, it is the way in which the formal elements of pitch and rhythm combine that is integral to the result, as what I am aiming for is a totality of experience in which it becomes difficult to decouple the melodic contour from its rhythmic component. Although highly reiterative, it is the way in which these materials are constantly recombining, reinstating or ever-changing that helps maintain a dynamic equilibrium in the music. Of course, there are many examples, historically of music which combines pitch and rhythmic cycles (the 14th - 15th century isorhythmic motet, Indonesian Gamelan music, the early process pieces of Steve Reich and Philip Glass or the generative process music of Brian Eno, for example). The visual art of Bridget Riley (and in particular the curve paintings of the 1970s) illustrates clearly how two distinct procedures, one concerning rhythm and the other concerning tone or colouration, might be combined to good effect. What I find inspiring is the way that she does not paint the result, rather the constituent components which make up the result. For example, a series of
curves will traverse the picture plane, moving diagonally from the bottom left to the top right. Onto these she will juxtapose a repeating colour scheme operating on a cycle of a slightly different length. Where the colours converge along narrower bands, it throws up the sensation of a third colour that has not actually been painted. So the paintings become dynamically charged by these opposing forces. Describing these paintings in which the curve was used as a vehicle for colour, she has written:

"I have always avoided colouring forms. I want to create a colour-form, not coloured forms ... When colours are twisted along the rise and fall of a curve their juxtapositions change continually. There are innumerable sequences each of which throw up a different sensation. From these I build up clusters that flow into one another almost imperceptibly ... what is important is the fundamental and inherent contribution of the chosen materials and processes to the completed work’s quality and presence.

Here Riley is creating an art that is situational. She is not creating the results but allowing the work to come into being through the procedures that she initiates. Brian Eno, describing his own formalised, computer-generated music has said that "you get something that you wouldn't have predicted ... it's putting something into motion and letting it make the thing for you.” It other words, it allows the composer (or artist) to take a step back from the process and observe the results. The use of the isorhythm has allowed me to create extended lines that seem always in a state of constant change. One senses the consistency of intervallic design but is equally aware of the lack of regularity in phrasing and articulation.

Another technique that I have regularly employed is that of the hocket. This is evident in all the scores presented here. The constant redistribution of the same pitches across different instruments or interwoven within different lines does not offer the same primacy as a regularly perceived melody since it lacks clear phrasing. As the Japanese composer, Jo Kondo, has said of his use of the hocket in his own music:
The listener can feel that a melody-like structure exists … but he is still able to recognise each individual sound in its own right. He perceives the individual sounds through a ‘melodic prism’ as it were.

In this approach, the intervallic relationships are preserved but, in some ways, made less obvious through the choice of distribution between instruments. As I stated to James Saunders:

Hockets and counterpoint can also have the effect of breaking up the surface area by splitting events into different areas or timbres. There seems to be a tendency in my compositions to let the music flow through you and I sometimes feel the need to counterbalance this with a tension that runs contrary to the notion of relaxation. I am interested in making the surface more detailed, ‘grainy’ and occasionally unpredictable. What I’m trying to do seems to be about maintaining a balance between flow and resistance, to create transitions that are smooth but are, at the same time, slightly unsettling.

2.4: Notation

Roger Redgate, in his published article on the chamber music of Michael Finnissy, writes:

It has always been the case that composers have certain stylistic qualities unique to their music which are to a greater or lesser extent inherent in their notation. Finnissy often cites Busoni’s belief that the very process of notation involves certain decisions amounting to compromises in the apprehension of a musical image: ‘The moment the pen takes possession of it, the thought loses its original form’.

In 2.2 I considered very briefly a particular approach to duration and rhythm and, in particular, how a formal framework is used to magnify events and help define, often to a finite degree, the temporal relationships between notes. What this has provided me with is a compositional strategy, a way of being able to give articulation to pitches spatially placed within the bar. As Redgate has pointed out:
[notation] ... often involves a transition from a generalised apprehension of sound to a particularisation in some way and this is perhaps especially so in the case of more texturally based music.

For me, beginning with a form of space-time notation that is subsequently converted into actual rhythm is part of a process of moving from generalisation to something much more specific. Leaving the exact placement of notes in an approximate space-time notation (say 2cm = 1 quaver) would, I feel, be unsatisfactory since the notes would lack the definition needed to bring the music to life, to give it the articulation that I desire. What this approach to notation gives the performer is something to respond to. As Philip Thomas stated when learning my piece etre-temps:

I am drawn to the subtleties of the rhythmic inflections rather than being repelled by the obvious challenges they pose.

Of course, not all performers would respond so readily to this kind of complex notation. For many musicians (and composers alike), notation is still viewed essentially as a way of transcribing something heard within the composer’s mind. As Nicholas Cook has said, many musicians still adhere to "deep felt traditional assumptions that performance is essentially reproduction". However, for me, composing and notating are inseparable. Part of this music’s identity, as with the music of many other composers whom I admire, for instance, Cage, Finnissy, Feldman and Dillon, would be lost if notated in a different way. I have been fortunate enough to work with soloists and ensembles who recognise what Roger Redgate has described as "notation's structural function as an integral component of the expressive discourse", musicians who also feel that the notation is an essential aspect of the music's identity. As Philip Thomas has said, "all notation serves as a prescription for action rather than as a description of sound."
In the late works of Morton Feldman, the notation plays such an important role in defining the character of the music. As he states in the essay 'Crippled Symmetry':

Rugs have prompted me in my recent music to think of a disproportionate symmetry, in which a symmetrically staggered rhythmic series is used: 4:3, 6:5, 8:7, etc., as the point of departure. For my purposes, it ‘contains’ my material more within the metric frame of the measure.

What Feldman is describing here is the process of a grid at work. He is not defining with his ear the particular attributes of a complex sound grouping and then writing it down but, rather, is using a spatially organised grid system to help him to define the notes as belonging to a particular rhythm. What Feldman recognises is that, although there may be many possible ways of grouping a particular set of notes (and that one way may not necessarily produce better results than another), it is the very act of deciding on a particular rhythmic configuration that will define the sound grouping as having a particular character. This definition may then, in turn, give the composer the suggestion of how a subsequent event might be rhythmically grouped and, through a repeated process, act as an organising principle that will eventually give the completed score not only its particular 'look' but also its particular sound.

The importance that Feldman attributes to the function of notation is something that has had particular bearing on my own compositional practice. I still feel the need to copy my music neatly by hand. Whilst I can see the obvious time-saving benefits of using a music software programme to produce score and parts, I feel that the music would lack a certain integrity through not having to concern myself with the alignment of notes. Often I will make changes at the time of copying up the score and the piece never feels complete until this has taken place.

The earlier quotation given from Busoni points to the fact that transcription can
result in a compromise: that the original intention can get altered by the process of writing it down. In other words, by having to define a note or silence as a measurable entity something can get lost in the process - a rift can develop between inert conception and fluid execution. If, on the other hand, we consider these alterations as being part of the creative act, if we use notation as a guiding principle in allowing us to structure and shape the temporal aspect of the music, then notation may be viewed not merely as the closed or final part of the compositional process, but as a window through which the potentials of rhythmic organisation can be revealed.

2.5: Musical form and structure

Through utilising processes involved principally with issues of temporality, circularity and repetition I have found myself, over the last decade, approaching form and structure from two main perspectives: firstly, there are those pieces which are structured into individual, self-contained sections, blocks or panels which do not exhibit qualities of change within themselves but exist as individual ‘moments’ in time (etre-temps, low time patterns [#1-5], six symmetries and four cycles for example) and, secondly, those which contain an aspect of residual metamorphosis through time, perhaps closer to Kramer’s description of nondirected linearity (for example, Rise and shifting light).

Within the first category, outlined above, material is viewed from different angles or perspectives in which the listener is offered a multiple-directed perspective of time presented as a series of similar or comparative events, each preceded by a short pause. Memory plays an important role here in allowing the listener to make important distinctions between past and present events, and is intended to throw up inevitable questions as to the relationship between materials. Thus, the listener is brought back to the surface of the
music and to the very process of making itself. As Harrison Birtwistle has said of his own music:

I’m concerned with…going over and over the same event from different angles, so that the multidimensional musical object is created which contains a number of contradictions as well as a number of perspectives. I don’t create linear music. I move in circles; more precisely, I move in concentric circles. The events I create move as the planets move in the solar system. They rotate at various speeds. Some move through bigger orbits than others and take longer to return.

The second category, alluding specifically to single-movement works, perhaps could be seen more explicitly to be about time passing. Here, the music undergoes an organic process of change brought about through a metamorphosis of the existing material or through the gradual introduction of new material. This usually occurs over a prolonged time scale which makes the changes feel less noticeable - it is as if we become aware of the change after it has taken place or unexpectedly find ourselves in a different musical location. Whether a piece emerges as a single or multi-movement work is very much dependent on the material itself. Often sections of music feel self-contained and therefore less suited to transformation. This is discussed further in Chapter 4 on process and intuition.

2.6: Texture, density and timbre

This notion of multiple-perceptivity also has its place within the texture of the music itself. The larger ensemble pieces presented here (six symmetries and four cycles) as well as the work for orchestra (shifting light) all contain dense panels of sound, which attempt to draw the listener towards a complex, multi-dimensional object.
The late works of Feldman can also be seen to exhibit aspects of density, particularly in the orchestral works *Neither* (1977), *Coptic Light* (1985) and *For Samuel Beckett* (1987). Whilst the resulting sound-world of my own pieces shares some of the harmonic language of Feldman's late music, a perceptible difference is that (unlike my own music), Feldman's large-scale works are conceived vertically from the juxtaposition and interrelation of large chromatic chords. Feldman’s work is rather like observing the late mural paintings of Rothko, which, with their large canvases and muted tones, immerse the listener within a pulsating void. What I am attempting to explore, on the other hand, is what James Saunders described to me as “the paradox of it being densely textural music yet one where linearity, and to an extent counterpoint, is the driving force”. This approach is closer to that of the Italian composer Aldo Clementi who, as David Osmond-Smith has stated, hold’s "a fascination with aggregate textures obtained through complex interweaving of parts".

I first discovered Clementi’s music around 1996 and was immediately drawn to the singularity of his intention and the way in which the canon could be used to create densely interwoven structures that would endlessly rotate upon themselves. What I find attractive about the canon, is that it ascribes to the basic premise of circularity described elsewhere in this commentary. As Bernhard Lang has said:

… the endless canon is a narration turning on itself, it is a Moebius loop directed towards infinity, a circle, which breaks with the development and points from the basis of a circular movement towards a third dimension of perception.

The surfaces of Clementi’s works display no immediate differences from one moment to the next, and so, as a listener, one is forced to listen 'inside' the texture. What Clementi and Feldman seek to achieve is homogeneity through a lack of timbral differentiation. This is further enhanced by a reduction in harmonic range. Neither
composer uses extended instrumental techniques and therefore avoids differentiation within the "pan chromatic magma". Similarly, I have tended to avoid extended techniques for the same reason. As Michael Finnissy has said:

   The sounds which result tend to draw attention to themselves, and away from the overall discourse.

   For me, working at a low dynamic volume has had the added effect of removing timbral differentiation as well as allowing me to create a softer palette. In all music which inhabits a quiet sound world, such as Feldman’s, the sounds are no longer projected towards the spectator. Thus the listener is forced to bring something of themselves to the listening experience, to meet the sounds half-way and thus intensify the experience.
3. Commentary on the Pieces

3.1: *etre-temps* for solo piano (2002)

Given my interest in time from a non-western point of view, it is perhaps unsurprising to find in this portfolio a piece that attempts to encapsulate the Japanese notion of "being-time". The title of this piano piece refers to Eido Shimano Roshi and Charles Vacher's translation into French and English of the *Shobogenzo Uji* by the well-known thirteenth-century Zen monk Dogen. The introduction by the translators succinctly summarises Dogen's point of view and, due to its relevance to this commentary as a whole, is here quoted at length:

*Uji*, considered one of the high peaks of Dogen's work, expresses his view of being (existence) and time. Dogen challenges our everyday notion, indeed, our experience of time. Time, as we know it, flows one way, in linear fashion, marked by the hours of the day. Time moves forward independently of our being, detached from our concerns, from an irretrievable past, through a momentary present, and proceeds to an unknown future. To think of time as only fleeting is to see ourselves separate from time... The ways that we define time are useful, but to Dogen, they hinder our understanding of our true nature. He tells us that absolutely everything, an object, a statue, an animal, a tree, a pebble - "all that is" is time. *Time id est being*. Each individual being, each event, though placed in succession, composes One time. Nothing, not even a speck of dust, is excluded from this One time, the ‘now’ as we live it, the ‘living now’.
My intention, therefore, was to draw attention to Dogen's concept of time with what Eric Clarke described as "its emphasis on present-centeredness."\textsuperscript{2} Rather like in Zen painting, with its limited palette of singular brushstrokes executed in such a considered manner, I wanted to focus on the very immediate, irretrievable consequence of performing any singular action in time (in this case, gestures performed at the piano) and, for this reason, began the piece with a series of precisely measured, isolated chords followed by rests. This was to include an uncharacteristically loud and abrasive opening motif in the upper-register of the piano - a short burst of sounds followed by silence, comparable perhaps to, the act of painting, in Japanese calligraphic art, a black line in ink upon the white empty space of the paper.

I decided at quite an early pre-compositional stage that \textit{etre-temps} would consist of a series of self-contained units lasting for one or occasionally two pages of the score. The unifying aspect of the whole work would come instead through using the same pitch material throughout (just six contiguous pitch classes, Eb, E, F, F\#, G, G\#) and by allowing similar units to return at various stages throughout the piece, albeit subject to some kind of subtle variation. What was to separate one musical event from the next would be the way in which the same six pitch classes would be placed into different musical contexts that included static events surrounded by silence, repeated chords and three-part
counterpoint. Each of these would be presented in different ranges of the keyboard and would utilise different modes of expression.

What resulted from these methods was something akin to the 'panel' approach outlined in the previous chapter (see 2:5), but with each 'unit' being separated from the last by a short pause (and turn of the page) rather than as individual movements. Each page is characterised in advance by having the same sequence of time signatures running vertically down the page. The same sequence of metres is occasionally replicated later in the piece (page 4 shares the same sequence of time signatures as page 1) or run in retrograde (page 7 is the mirror image of page 6). The outlined scheme of time signatures for each page of the piece is given in Example 11.

This pre-considered use of time signatures is of no direct consequence to the listener but serves rather as a structural tool for the composer. Having already made specific choices about the material that I was to use and the way in which this would operate in each particular section of the piece, these self-regulated systems would provide structural limitations within which to work. For instance, the placement of the isolated gestures at the start of the piece (pages 1 and 3 of the score) had to fit within the system of predetermined metrical units, thus suggesting to me certain possibilities for rhythmic placement through, for instance, the use of particular irrational ratios (see 2:2).
Similarly, the silences between these gestures could not be wholly determined in an intuitive way by the composer but governed, to however small a degree, by the size of the bars within which they were contained. The use of first- and second-time bars in unusual places or repeats in the middle of the bar can be seen as additional structural limitations. The aim here was to create a working condition which would allow me to take a step back from the compositional process, thus introducing a slightly more impersonal way of working:

Example 10: Repeat in the middle of bar 57 from etre-temps
By kind permission, below is Nicholas Cook's "Analytical "form chart" for etre-temps:

Example 11: Nicholas Cook's ‘Analytical “form chart” for etre-temps’
In the previous diagram, the analyst has outlined the recurrent use of time signatures, as well as, identifying six different types of material (classified A to F) and fragmentary versions of any of these types of material. As Cook correctly observes:

the second half basically recycles materials that have already appeared - with the sole exception of "F", which appears for the first and last time in the final section of the piece. Here then we have a basic pattern, and an exception to it that functions as a kind of coda, itself characterized by the fragmentation of already presented materials. And that, in turn, defines a sort of rhyming relationship with the end of the first half of the piece (page 8), where material "B" appears in fragmented form.\textsuperscript{4}

Therefore, the structure of the work can be seen as a circular process in which, from a point half way through the piece, we revisit past events but in new contexts and eventually return to where we started. On the next page is a comparison of the opening material in page 1 and its return in page 3, and the opening material in page 2 and its return in page 4:
Example 12: A comparison of pages 1 and 3, and 2 and 4 respectively of etre-temps
The following example shows the initial set-up of points within a time frame for what eventually became bars 145-149 of the finished piece:

Example 13: Initial set of points for bars 145-149 of etre-temps

Example 14: showing how these points were then re-translated into actual rhythms
Coming back to this material later in the composition, I would have something resembling a rhythmic design to work with, which could be open to all sorts of permutations. I could, for instance, trace the same points into a grid containing a new set of time signatures and reconfigure the material accordingly to the new set of time signatures or, for instance, retrace the rhythm in retrograde or completely invert the rhythmic pattern. Through this process of translation and re-translation I would arrive at rhythms distinctly different from the original. Onto these I would then add the pitches in their original sequence.

Several of the compositional techniques consolidated through writing this piece find their way into the subsequent works presented here. The contrapuntal writing and continued use of a more 'complex' form of rhythmic notation, for instance, have become fundamental aspects of my compositional approach. Perhaps what makes *etre-temps* stand out within the context of this survey, however, is the highly economical use of pitch material.Whilst the employment of just five or six pitches throughout a piece was an important part of my compositional aesthetic up to and about 2002, it has been less prevalent since. This is largely due to the increased use of pitch cycles that travel through an entire octave and a greater interest in cyclical processes in general.
3.2: *low time patterns [#1-5] for ensemble (2002)*

*low time patterns [#1-5],* written later in the same year as *etre-temps*, draws on aspects of ensemble writing outlined in earlier pieces such as the *In Nomine after William Byrd* (1999), *the ground* (2000) and *Four Parts to Centre* (2001/2002). In each of these pieces there is a strong sense of homogeneity, with all instruments assuming an equal role and all playing continuously within a limited harmonic bandwidth. As with *the ground*, in *low time patterns [#1-5],* the woodwind and strings are often divided, with each group playing from a pitch set which, viewed collectively, fills out a contiguous chromatic segment over a given harmonic range. On the next page is the pitch cycle for the woodwinds and the ranges for the strings in the first movement. The woodwind parts are largely contained within this same range whilst the vibraphone range is more expansive:
Example 15: Selected pitches for woodwind and strings, *low time patterns* #1

12 note pitch cycle for woodwinds (alternating tones and semi-tones)
Low time patterns [#1-5] was the first piece in which I was to use the pitch cycles more thoroughly, combining related cycles of different lengths within the same piece. This led me to consider how these cycles might be used to contrast what I have described as aspects of inner motion and projected motion. Below are examples of two cycles used in the piece:
Example 16: Examples of pitch cycles for movements #1 and #4

As will be immediately evident, although both cycles use alternating patterns of tones and semi-tones, cycle #1 uses eight different pitch classes which oscillate forwards and backwards through a scale, whilst cycle #2 is constantly moving in a forwards direction around all twelve notes of the chromatic scale. Naturally, the latter suggests linearity or directionality (hence the term ‘projected motion’), whilst the properties of cycle #1 suggest a chain of notes which turns in or back on itself, thus arresting a sense of moving forward in time (inner motion). As I began to make sketches utilising these ideas, I came up with a five-movement plan that follows the scheme indicated below:

Example 17: Tempo relationships for the five movements of low time patterns [#1-5]
As can be seen in the previous diagram, the piece alternates between movements of a more static character and those that have a greater sense of linearity. There are, similarly, clear mirror relationships between tempi, with the quickest movements being those in which motion is projected.

Movement I:

As described above, movement I aims to convey a sense of inner motion through the use of eight different pitch classes. These can be seen to operate within a narrow bandwidth, with the exception of the vibraphone which contains notes outside this register that seem to ‘float’ above the texture. As can be seen from the example below, the pitch cycle illustrated in Example 15 is hocketed between the bass flute, cor anglais and bass clarinet:

Example 18: Note distribution in the woodwind parts for the opening of low time patterns #1
Example 18 shows how the initial distribution of notes is reconfigured through bars 3 and 4 before the initial pattern is repeated. The vibraphone also use the same pitch classes but with the notes moving in a forward and retrograde motion around an independently constructed cycle. In contrast to the linearity established in the woodwind and percussion parts, the strings play chords derived from the same pitch material. Notes are subtly redistributed from one chord to the next and slight timbral distinctions also occur from changes in bow position. Pages 2 and 3 of the score can be seen as slight variations on the initial pattern, with the notes being slightly compressed or attenuated according to the size of the bar.

**Movement II:**

In this movement, all instruments play through the same octave cycle as a canon in three parts. Below are the original frames for the initial set-up of the canon:
Example 19: Pitch charts used in *low time patterns #2 and #4*
Example 37: As above, expanded into 3.5-bar units

Example 38: As above expanded into 4-bar units
Each group of 15 bars (3 pages of 5 bars each) acts as a structural unit which is further sub-divided according to the length of the pitch cycle. So the 15-bar measure may be divided into 5 cycles of 3 bars each \((3 + 3 + 3 + 3 + 3 = 15)\) or contain 5 cycles of different lengths (for example, \(2.5 + 2.5 + 4 + 3 + 3\)):

Example 39: Division of 15-bar measures through *four cycles*, movement II
These ascending scale tones in the strings are then combined with sustained notes in the wind parts, which are generated from pitch cycles that follow the same harmonic scheme but are subjected to octave transposition. This results in an interesting perceptive phenomenon, as the relatively fixed sound world established by the woodwinds is made to feel less stable by the perpetually rising pitches in the strings: there are moments when the woodwind parts seem to curve or bend, as if the notes are following the trajectory of the strings. Composer Matthew Shlomowitz described this as the musical equivalent of parallax. In other words, there is a perspective shift between what is mobile and what is stationary.

Third Movement:

This movement grew out of experiments conducted during the Blue Touch Paper workshops. What I was aiming for was an effect analogous to a backwards tape loop produced by playing the same pitch on two different instruments but in opposing dynamics, as illustrated below:

Example 40: Single pitch played as a staggered entry on four different instruments
This is then explored in different ways throughout the movement:

Example 41: Three variations of dynamic contrast

Again, a grid of sorts is used to organise the pitch material. The initial two pages are derived from the chromatic pitches below (Grid A). In this series the pitches travel around the cycle (starting on Db) three times. Page 3 is derived from the same chromatic series, but with the pitch classes subjected to octave transposition and travelling around the cycle only twice (Grid B):
Example 42: Pitch scheme of opening two pages, *four cycles*, movement III

These first three pages are then repeated until bar 61. From this point onwards, cycles are combined to produce variations on the initial grids; a chromatic cycle may repeat twice against another repeating only once, for example. The tables below indicate the three other main grids used subsequently in the movement:
Example 43: Variations on the pitch scheme outlined in Grid A
Fourth Movement:

The final movement (or 'cycle') again presents material in a circulating continuum but, despite the moderate tempo, presents time as being drastically slowed down, so that the effect is of a harmonic transition that seems to be occurring almost in slow motion. As with *six symmetries* II, IV and VI, there is a visual aspect to the score which determines a 'natural' order of instrumental entries. As is abundantly clear from the score, the instrument at the top of the score - the flute - is followed by the oboe, then the clarinet etc., producing a diagonal wave-like pattern across the page.

Unlike the preceding three movements, the pitch cycle is constructed from pitch classes contained within a perfect fourth (thus alluding to the earlier described sense of inner motion):

![Diagram of initial pitch cycle for four cycles, movement IV](image)

**Example 44: Initial pitch cycle for four cycles, movement IV**
Using a pitch cycle containing the same number of notes as parts available (15 notes treating, in this instance, piano left and right hands as separate parts) meant that each cycle would commence from the top of the page, thus preserving the integrity of the 'visual' aspect of the score. Upon completion of a cycle, these pitches are then repeated or transposed up a tone. Due to the fact that the notes at the end of a cycle lead naturally, through the same step-wise progression, to the opening notes of the following cycle (Bb-A-B-Ab in cycle #1 leading to A-Bb-C-B in cycle #2, for example) the transitions between these events remain consistent.

The diagram below outlines the repetitions and transitions of pitch cycles. At bar 81 the cycle can be seen to have travelled back to the start (thus completing a larger 'macro-cycle'). The whole process is then repeated, using a less predictable number of repetitions and with more variation of tempo until, returning to the opening page once more, the piece comes to a close:

Example 45: Macro cyclical scheme for four cycles, movement IV

Often, when looking through the back catalogue of a composer’s work, the duration of a piece seems to be proportionate to the size of instrumentation. Given that most of my recent pieces last longer than 15 minutes, I had therefore not envisaged that my first orchestral commission would be for a piece of less than five minutes duration (the completed work actually came out longer, at seven minutes). I therefore decided from the outset to make a work that would feel proportionately longer by presenting the listener with a largely inanimate sound object - a slowly oscillating chord that might transform gradually over the duration of the piece. As I said in an interview with Paul Cutts:

It’s like looking at the hands on a clock...you can’t see that something is in motion but there’s an invisible transformation taking place. I wanted the shifts to be very subtle, for the listeners to arrive somewhere else without realising the journey they’ve made.10

Coincidentally, whilst working on the score, I visited the excellent exhibition of light sculptures at Bretton Hall sculpture park by American artist James Turrell11. What Turrell presents us with are works that, although created purely from light, at first have the presence of large monochrome paintings. Gradually, these seem to envelope the viewer, controlling their perception of light and creating a projection of a luminescent object that seems to have both solidity and weight. Turrell’s work confirmed my conviction to present a sound object, static and yet complex.
*Shifting Light* consists of a series of canons which fill out a harmonic range over four octaves. Like much of my recent music, the pitches derive from the chromatic scale, which are presented in ascending order (but subject to octave transposition) to produce a continuously oscillating harmonic sequence. As the piece progresses, pitches are gradually removed at an almost imperceptible rate to uncover, at a point approximately two and a half minutes into the piece, a sense of tonality emerging from the texture. Below is my original sketch of the harmonic scheme:

Example 46: Harmonic scheme, *shifting light*, showing the ten-stage reduction of pitches from 12 to 3 notes
The canons follow this scheme with periodic shifts in the number of entries. These vary between three and six parts, creating the sense of a thickening and thinning of harmonic density. Below are examples of the canons used in bars 1 to 7 and bars 15 to 21:

Example 47: Three-part canon, *shifting light*, bars 1-7

It could be considered that, in some ways, the piece is in a continuous state of timbral variation. It was my intention that each note should be given its own life, its own entity, in the same way that, in the paintings of the Northumbrian painter, James Hugonin, the overall sense of ‘hue’ that traverses the picture plane is the result of the tiny composite marks that make up the canvas. It is worth citing the way in which Hugonin works at length:

I work with large rectangles containing thousands of coloured marks. I paint elliptical or oval forms oscillating and fluctuating in different
colours within a very fine linear grid. These forms are located at varying distances apart from each other creating intricate and subtle rhythms. Using many variations in close tones, it becomes possible for random movement to evolve and occur within the rectangle. It is the reflected light pulsating from adjacent colours that creates an indeterminate and unpredictable colour field emanating light. Nothing dominates.\textsuperscript{12}

Hugonin builds up these double ovals or elliptical shapes very slowly. A single work is conceived over the course of a year or longer, adding one colour then another to each tiny rectangle within the grid until all the rectangles are filled. Similarly, when creating the score to \textit{Shifting Light}, each note had to be plotted in turn. With each independent sound being allocated to an individual instrument, the choice of specific instrument to be used was largely dependent on a step-by-step basis - slotting the notes together like a giant jigsaw. For the most part, I was trying to keep an even balance between all instruments, but occasionally I would allow a particular sound grouping (the woodwind, for instance) to be given more prominence. Taking this approach, it was not possible to compose different moments of the piece separately - every sound was reliant on the placement of every previous sound.
1 Dogen, *shobogenzo-uji*, 29.
3 Ibid, 42.
4 Ibid, 43.
6 A major exhibition of Riley’s work was shown at Tate Britain between June and September, 2003.
7 Quoted from an email discussion with Linda Catlin Smith, September 2006.
8 An acoustical phenomena that makes a sound seem as if it is continually rising or falling in pitch.
10 Telephone interview with Paul Cutts, September 2006.
4: Process and Intuition

The use of specific compositional processes such as the grid systems and the methods of pitch and rhythmic organisation described in the previous chapter call into question the overall relationship between process and intuition: how much of this music is defined by these systems ahead of writing the piece, and to what extent does the composer decide upon the course of the action during the actual act of composing itself?

Clearly, this is music which is reliant upon certain self-imposed restrictions. For instance, in each of these compositions the ordering of pitch classes was established prior to writing the piece and remained unaltered throughout. This compositional approach can be seen as being at odds with Feldman, whose so-called ‘intuitive’ approach allowed him to break away from a given system at any moment. Nevertheless, the pieces presented here cannot be seen as entirely process led either, but involve spontaneous choices throughout such as deciding to what degree events might be elongated or contracted or how many times a musical figure is to be repeated.

In *etre-temps*, the given metric scheme of predetermined time signatures provided me with a self-imposed restraint that then allowed me to work quickly and flexibly within the given system, adapting and accommodating rhythmic material to fit within the metric scheme. Referring back to how I had ordered the
same material used previously in the piece would allow me to present this idea in a slightly different way. *low time patterns [#1-5], four cycles and six symmetries* would similarly involve the intuitive reordering and manipulation of different sets of materials. In these particular pieces, form was not fully established prior to working but became more fully considered once the ways in which these different sets of materials related to one another was more fully established.

*Rise* and *shifting light*, on the other hand, were through composed, involving a gradual transformational process from one set of materials to another. In both of these works, on the other hand, I found it beneficial to begin with an outline of form and structure, creating a timeline that would act as a loose guide as to how I would repeat and vary material along the way. In *Rise* and *shifting light*, there was no question of working on different sections of the piece simultaneously, as each event was reliant on what had gone before. In *Rise*, the types of moment-to-moment decisions I would be making involved the manipulation of rhythmic material, changes in register and the elongation and contraction of rhythmic material. In *shifting light*, the allocation of each note to a specific choice of instrument was made on a moment to moment basis, as were changes in harmonic density.

In each of these instances, it is about being able to make moment by moment choices within a given set of limitations, about finding a suitable ‘distance’ between a personal and an impersonal way of working. Such an
approach can be seen as highly compliant to a general aesthetical stance that involves the use of understatement as a vehicle for expression, since what these processes provide is a structural framework as well as a way of imposing meaning upon pitch and rhythmic organisation that is not reliant on goal-directed dramatic forms.
5: Conclusion

The works commented on in Chapter 3 serve to illustrate the main aspects of the compositional technique outlined in Chapter 2 and, in particular, my approach to circular time, both on a micro- and macro-level. There are other works not included here which could be seen as anomalies or departures to the main body of work. The two *In Nomines after William Byrd*, for instance (written in 1999 and 2003 respectively) use similar processes but with material derived entirely from the music for viol consort of William Byrd. Similarly, there are graphic scores (*After Sylvestro Ganassi* for solo tenor recorder) and collaborative works with painter and print-maker Mike Walker. There are also those scores which utilise those techniques illustrated above, but would have made this survey too extensive to be included here (*Four Parts to Centre* or the *Octet*, for example) and recent works such as the *Linden Quartet* for which I do not, to date, possess recordings (and therefore have chosen not to submit for PhD). A more complete list of work to date is given in Appendix 1.

What I hope to have illustrated through the pieces presented here is the way in which I have attempted, over the last few years, to deal with a reductive approach to musical language through limiting myself to essentially just a few techniques and musical processes. The compositional strategies demonstrated continue to provide me with fruitful ground for future musical developments. *shifting light* hinted at the introduction of a softer musical palette in its gradual
reduction towards a pan-tonal texture. The use of a more colourful tonal palette alongside the greyer, muted tones of a fully-chromatic language is an area that I am interested in developing further. The recently completed *Linden Quartet*, for example, makes shifts between sections of fully-chromatic material and sections of pan-tonal material. Recent sketches also demonstrate a propensity for working in different key areas simultaneously.

Another potential area of research is in working with extremely high levels of repetition. A recent miniature entitled *1 (a ... (leaf falls on loneliness)* that I wrote for a cultural exchange at the Austrian Cultural Forum in London consisted of a single page of music repeated 27 times (see Appendix 2). Interestingly, the indicated dynamic of *ppppp* meant that it became impossible for the players to play each repeat in exactly the same way: notes on the piano would occasionally not sound at all, for example, and there were moments in which the key clicks on the clarinet became more evident than the notes themselves. What this has presented for me as a composer is the possibility of allowing a degree of flexibility to be written into the material itself. At the time of writing I am completing a new piece for COMA (Contemporary Music Making for Amateurs) entitled *Plane Image* (see Appendix 3). Although the pitches and rhythms in each part are to be fixed, the parts themselves will be uncoordinated, thus allowing for a degree of flexibility within performance.

In future works, whether I choose to adopt a method of fixity and control or
allow an aspect of indeterminacy into the music, the emphasis is still on repetition and slight variation, of working with panels of sound that invite the listener to make comparisons between one moment and the next. What began over ten years ago with a primary interest in working away from dramatic or narrative-driven forms - of working with an approach to time that focuses on each moment as it occurs - can still be seen to provide fertile ground for future musical developments.
Appendix 1:

Bryn Harrison- selected works list 2002-2006

Works underlined are presented for PhD by publication

Four Parts to Centre (2002) 17'
cl, e. gtr, vla, vc
Commissioned by West Deutscher Rundfunk. First performed; Apartment House, Wittener Tage fur Neue Kammermusik, Germany, 26 Apr. 2002

etre-temps (2002) 15'
solo piano
Commissioned by Philip Thomas with funds provided by Sheffield and Southampton Universities. First performed; Philip Thomas, Mappin Art Gallery, Sheffield, 25 Oct. 2002

low time patterns (#1-5) (2002) 16'
bfI/cor/bcl/perc/vln/vla/vc
Commissioned by Huddersfield Contemporary Music Festival with funds provided by Arts Council of England and Stephen Bell. First performed; Ensemble Recherche, Huddersfield Contemporary Music Festival, 26 Nov. 2002

I-V (2003) 7'
solo piano
First performed by Jonathan Powell, Huddersfield Contemporary Music Festival, 24 Nov. 2003

Rise (2003) 10'
Bb clnt, pno, vln, vc
**four cycles** (2002-2005) 25’
fl, ob, bcl, bsn, hrn, tpt, trb, pno, perc, 2vln, vla, vc, db
commissioned and first performed by
the London Sinfonietta, 13 May 2006

**Second In Nomine after William Byrd** (2004) 7’
Alto fl, cl, pno, vln, vla, vc
First performed; Chroma,
Leamington Spa Festival, 9 May 2004

**Octet** (2004) 15’
Fl, ob, cl, Bcl, bsn, Btrb, vc, db
First performed; 175 East,
Christchurch, New Zealand, 12 Jun 2004

**six symmetries** (2004) 15’
large ensemble (17 instruments)
First performed; Klangforum Wien,
Graz, Austria, February 2005
Commissioned by IMPULS

**Piano Set (six miniatures)** (2005) 7’
solo piano
First performed; Mary Dullea
The Warehouse, London
12 Nov 2005

**Return** (2005) 13’
solo electric guitar
First performed; Alan Thomas
Kettles Yard, Cambridge
12 February 2006

**shifting light** (2006) 7’
orchestra
Commissioned by LSO in partnership with UBS
First performed; LSO, conducted Sir Colin Davies
Barbican, London
24th September 2006

**Linden Quartet** (2006) 15’
Bb clnt, e. gtr, perc, pno
Commissioned and first performed by asamisimasa
Borealis Festival, Bergen, Norway
14th March 2007

1 (a…(leaf falls on loneliness) (2007) 4’
Mezzo-sop, Bb clnt, pno, vln, vc
Commissioned by the Austrian Cultural Forum
First performed: Ossian ensemble with Lore Lixemberg
Austrian Cultural Forum, London
18th April 2007