The simplification of complex notation
presented in aleatoric forms.

by

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Signed

[Scott McIntyre]
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   - Sitiveni Talei – Baritone
   - Kenneth Young – Conductor
   - Tasmanian Symphony Orchestra
   - Recorded by ABC Classic FM, July 29th 2011, Federation Hall, Hobart, Australia

   - Jeremy Williams – Conductor
   - Jan Sedvika Camerata
   - Recorded April 2011, Recital Hall, Conservatorium of Music, Hobart, Australia

   1. Scene One – *Death*.aif – 5’09”
   2. Scene Five – *Something Black on the Snow*.aif – 9’05”
   3. Scene Six – *Beaten to the Pole*.aif – 11’47”
   5. Scene Nine – *The Blizzard*.aif – 10’12”
   7. Scene Eleven – *Approaching the End*.aif – 11’26”
   8. Scene Twelve – *Remembrance of setting sail from England*.aif – 2’37”
   9. Scene Thirteen – *Hope*.aif – 2’33”

   Jamie Allen – Tenor
   Benjamin Martin – Tenor
   Michael Lampard – Baritone
   Phil Joughin – Baritone
   Nick Caddick – Bass
   Paul Weingott – The Narrator
   Gary Wain – Conductor
Jeremy Williamson, Slade Hocking – Trumpets
Mandy Parsons – French Horn
David Scaife – Trombone
John Goldsmith – Bass Trombone
Thomas Misson – Piano/Organ
Calvin McClay – Percussion
Xinyu Guo, Rachel Forster, Rebekah van Emmerik, Gabrielle Robbin – Violins
Damien Holloway, Miaw Lim – Violas
Kate Calwell, Felicity Allan-Eames – Cellos
Emily Becker – Double Bass
Recorded by ABC Classic FM, July 7th 2012, Recital Hall, Conservatorium of Music,
Hobart, Australia

   Gabrielle Robin – Violin
   Matthew Anning - Piano
   Recorded by Arabella Wain, Michael Smith on March 29th 2013, Recital Hall,
   Conservatorium of Music, Hobart, Australia

5. A Letter to the King of Norway (2012).aif – 6’32”
   Kolio Plachkov – French Horn
   Lisa Ibias – Violin 1
   Angela Fricilone – Violin 2
   Maureen Helfinger – Viola
   Recorded July 29th 2012 at Davis Concert Hall, University of Alaska, Fairbanks,
   USA

   Aaron Barnden – Violin 1
   Jessica Bell – Violin 2
   Ceridwen Davies – Viola
   Caerwen Martin – Cello
   Recorded for Crackbell Records by Silo String Quartet on April 21st 2013 at Fridy
   Studios, Melbourne, Australia
2. Recital - March 2011

   Brigid Burke – Clarinet
   David McNichol – Piano

2. The Ice Barrier (Chamber Version) (2011).aif – 14’36”
   Michael Lampard – Baritone
   Abby Fraser – Flute
   Xinyu Guo – Violin
   Michael Kieran Harvey – Piano

   Michael Kieran Harvey – Piano
   Recorded by ABC Classic FM, March 6th 2011, Recital Hall, Conservatorium of Music, Hobart, Australia

3. Miscellaneous Recordings

   Abby Fraser – Flute
   Recorded October 2010, Recital Hall, Conservatorium of Music, Hobart, Australia

   Roy Amotz – Flute
   Michal Beit Halachmi – Clarinet
   Naaman Wagner – Piano
   Cordelia Hagmann – Violin
   Shira Mani – Cello
   Xu Yi An - Conductor
   Recorded at the Asian Composers’ League Festival 2012, October 17th 2012, Hateiva Hall, Tel Aviv, Israel

Folder 2 [Folio Pdfs]

1. Exegesis – The simplification of complex notation presented in aleatoric forms.
2. Composition Folio
Abstract

The simplification of complex notation presented in aleatoric forms

This project seeks to find solutions to questions of complex musical notation and whether they can be simplified by using techniques of limited-aleatory. A folio of compositions has been written, constituting eighty percent of this project. These compositions demonstrate that by using limited-aleatoric notation developed by Witold Lutosławski (1913-1994), that I can achieve a complex outcome than if I had used a more complicated rhythmic language. The exegesis constitutes twenty percent of the thesis with the remaining technique. As the musical language of composition grew more complex during the 20th century there also developed the need for ever more complex notational systems. The performers’ often-improvisatory input was abandoned in favour of a strict control from the composer in a hyper-detailed notation. As notation of melody, harmony and rhythm became more complex, the performance outcome often sounded as a ‘notated improvisation’ wherein all sense of metre and melody seemed to be lost. This led inevitably to aleatoric practices in the 1960s of notating more simple ideas but arranging them to create more complex outcomes. In my own composition the need for hyper-notated scores has given way to simpler forms where an element of chance has been introduced at the point of performance of the score. The compositions I write do not strictly fall into total forms of chance or indeterminacy as I still exercise a level of control in the organisation of structure, pitch and time. By allowing a degree of aleatory or randomness into the score there is a room for a simpler notation working to achieve a blurring of melody, harmony and rhythm that occurred in many of my earlier complex scores. In this exegesis I will show how examples of extreme notational complexity and simpler notation through aleatoric techniques (although at times graphically experimental) achieve the same ends in compositional and sonic complexity to the performer and listener.
Chapter One: Introduction and literature Review

The main subject of this composition folio and exegesis is to examine how issues of notational complexity can be dealt with by using techniques that draw upon elements of indeterminacy. Using models derived from the limited-aleatoric notation of Witold Lutosławski (1913-1994), I have demonstrated in my own compositions how these methods circumvent the need for complex rhythmic subdivisions. The exploration of indeterminate elements led Lutosławski to formulate a musical language that necessitated the exclusion of the strict adherence of meter that has dominated much of the history of Western music. The main aims of these experiments in notation and the use of limited-aleatory are to present music to performers that could create a high level of complexity without the need for exhaustive amounts of rehearsal time. Each piece had a very specific set of requirements to fulfill. Some pieces were written to test a hypothesis and enable the successful techniques to be explored further in other pieces. The key pieces in this folio were to be an opera, an orchestral piece and a string quartet. During my candidature it became apparent that further exploration into techniques would be need to expand into other pieces to help the process of evolution.

The folio of compositions I have written explore Lutosławskian methods of limited-aleatory in order for me to better present my own explorations into complexity. The complexity of the musical structure and the complexity of the notation used has been the crux of my compositional process up until now. I now finding myself addressing question as to whether I can achieve the same results with a simpler notation, i.e. can I express complexity simply? Or is complexity merely complicated? Whether this complexity is part of the process of composition or the notation, I have always been drawn to expressing complex ideas and
sounds. I have also viewed the compositional process as more than a tool for the construction
of new music but rather a construct for the solving of puzzles and structural ideas. Central to
my process is a sense of architecture, the designing and execution of a grand design or formal
scheme for the musical language. To merely write a collection of notes and explore their
interactions is not enough, there needs to be a solid framework on which to ‘hang’ a musical
interpretation like paintings on the walls. Disparate to these musical constructs were the
abilities or wishes of the performers, a series of confrontations with performers led to a
rethink of my stance on complexity.

This project demonstrates that without surrendering the principles of complex musical
architecture I can create definitive rhythmic and polyphonic forms that still adhere to the
aesthetic of complex music. My folio contains works for three large-scale ensembles and
three chamber works. The larger ensembles consist of a work for solo baritone voice and
symphony orchestra, an opera with a cast of six and chamber orchestra and a suite for thirteen
strings arranged from sections of the opera. The chamber works consist of a piece for violin
and piano, a quartet for French horn, two violins and a viola, and a string quartet. In all of
these pieces are to be found methods and techniques employing limited-aleatory to generate a
level of indeterminacy to better simulate rhythmic complexity. This folio of compositions
represents eighty per cent of this project.

The exegesis will look at how Lutosławski’s methods of limited-aleatory provide a satisfying
alternative in the context of my own composition. Discussion of his methods and the way I
have incorporated these methods into my folio of compositions will constitute the remaining
twenty per cent of this project.
Over the past several years I have been drawn to music that exhibits traits of indeterminacy and aleatory. It is within these styles of notation that I believe I can present complex musical structures without the strenuous demands of past works. In 2008 after the rehearsals and performance of my piece for two guitars and soprano, *Cenozoic (7 Guitar Songs)*, the performers asked me if I had considered the possibility of notating the piece without bar lines. As with many of my compositions over the past two decades, I have usually written complex rhythms in a relatively simple time signature, the ebb and flow of rubato and acceleration built into the subdivisions of the rhythm, the bar merely serving as a reminder as to one’s position in the score. Much of the music had been written across beats and the bar line, thus the redundancy of the bar line became apparent. The removal of these constraints helped the performer independently execute their part and allow indeterminacy into the performance. At a certain point complex rhythms cannot be entirely accurate when executed by human beings, a certain level of chance and indeterminacy results in the placement of the rhythm.

In composing my String Quartet No.2 later in 2008, I explored this notion and wrote without barlines. Over the course of twenty minutes the quartet performed seventeen sections that were separated by a pause or fermata. The pauses were designed as meeting points at the end of a section to allow performers to reorientate themselves and catch up for the next section. I have often thought about these sections as the joining of floors to walls to ceilings inside a dwelling. Unsightly gaps are hidden with skirting boards and cornicing, the musical equivalent are pauses and fermatas. It is the hiding of the gaps and joins that help the music flow as a narrative without revealing the structural elements. Within each section of the quartet the performer, though given strictly instructions regarding tempo, is to execute their part without regard for the other performers. The quartet ensemble instead becomes a quartet
of soloists each competing for recognition, the effect is that the group does not want to sound like a quartet.

A by-product of this technique was that previously explored rhythmic complexities in my compositions were visually simplified. The complex outcome is decided by the misalignment or chance encounter of the parts; their counterpoint now unsynchronised. Indeterminacy renders the score as merely a vague map, the destinations constantly changing albeit only subtly. Despite the level of indeterminacy allowed into this score, it still remains the same piece. Two subsequent performances and recordings yielded subtle differences, duration of performance, and placement of notes. There was no mistaking the structural integrity of the piece remained intact and had not disintegrated through interpretation.

The same year, 2008 also brought an encounter with the score of Lutosławski’s Symphony No.3 (1973-83). Although I owned a recording of this work and was intimately familiar with its sound I had never seen the score. I was aware of Lutosławski’s place in contemporary music but had never given much thought to the execution or techniques that he employed. The revelation that the score contained a far less complex notation than I had imagined was intriguing. Parts of the score did employ unusual techniques, namely the presentation of the ‘limited-aleatory’ but for the most part represented simplicity in its rhythmic language. Lutosławski’s techniques presented a way of conveying complex aural results through a simpler form of notation.

Primary sources of literature are selected scores and recordings of Lutosławski that show a development in his limited-aleatoric notation starting with Jeux Venetians (1960) through to his Third Symphony (1973-83). Examples from his late period of composition plot a stylistic
and consistent approach to his notation. Secondary sources include interviews that Lutosławski gave as well as some analysis of these techniques.

A misconception that is often made about contemporary music is only music that has a complex notation can be complex and the opposition to this; simpler music has a simple notation. As discussed by Richard Toop in 1993, it is often the words complex and complicated that are the cause of confusion.¹ Toop argues that relationship of complexity to difficulty translates to complexity to complicated, the latter usually the intent description sought by the listener. The presentation of complex musical structures is not a unique pursuit to the twentieth and twenty-first centuries but rather a driving force behind the development of Western music as a whole. As Toop states “a trait of Western music has been the pursuit of complexity and the underlying axiom that “given \( x \), assume the possibility of \( x+1 \).””² The possibilities presented to us as composers in the form of complexity have helped shape and develop notational complexity. He argues that a work like Beethoven’s *Grosse Fuge* while not notationally demanding or complicated still represents a complex structural architecture, alternately Liszt’s *Mazeppa Etude* “may astonish through virtuosity”³ but not being musically complex, it’s just hard to play. In the early 1990s disagreements over complex music and difficult notation were emotionally charged and commonplace in the Australian new music landscape; the factional point scoring essentially by-passed the issue of aesthetic complexity, core to the works’ existence. The perceived complexity by the listener does not necessarily facilitate the use of complicated notation in the score.

² Toop, 43.
³ Toop, 46.
The music of Brian Ferneyhough is considered synonymous with complexity and he more or less echoes this in a conversation with composer James Boros;

Of course, ‘complexity’ is always relative to the implied position of the observer; even superficially quite simple phenomena can be…‘deconstructed’ into…complex and unpredictable patterns.¹

He also states “I am concerned with keeping the listener constantly aware of complexity as an inescapable given.”² Though Ferneyhough acknowledges the relative standpoint of the listener to complexity, his music is deliberately furnished with an aesthetic designed to confound the virtuosic integrity of the performer. The deliberate choice of hyper-complex notation in Ferneyhough’s music reduces the performers’ execution of the score to a subservient attempt to reach the end of the piece. This is music that is both complex and complicated. Both performer and listener alike have no illusions as to where his music sits; it is complex music with a complicated notation.

² Ferneyhough and Boros, 115.
The example at fig.1.1 from Brian Ferneyhough’s *La Chute d’Icare* shows the degree of difficulty inherent in the execution of his work. Constant presentation of difficult rhythmic subdivisions, wide dynamic shifts and ever changing articulations for each performer ensures a complex aural outcome. The rendering of a bar becomes a major milestone for the ensemble. Whilst appropriately trained musicians could execute most of this information much of the notation relies on some serendipity within the structure. Despite the performers’ best intentions, the execution of the rhythms for the clarinet in the second bar of this example, unless performed by a computer, will not sound precisely as written. Indeed the outcome of such notation can paradoxically often ‘feel’ improvised and elastic.

The American composer Thomas De Lio also touches on the differences between complex and complicated. “Any complexity which may be involved in either creating or appreciating
a musical work has little to do necessarily with the complexity of that work’s surface.” 6 The work’s surface in this case is the score, as it is the most tangible part of the compositional process. But this prompts the question: is a piece of music the notation or is it the performed interpretation of the notation?

As I mentioned earlier, an encounter with the limited-aleatory of Lutosławski helped me to realise that complexity could be with a relatively simplified notation. To Lutosławski a composition is quite clearly an activity for the participation of musicians aside from its structural concerns.7 As mentioned earlier, music that is difficult to perform often requires an indeterminate or ‘aleatoric’ solution. Replacing the exact placement of rhythmic complexity with more indeterminate subdivisions over longer periods of time can help achieve more or less the same effect. Clearly if the execution of the score is in itself the composition and the notation is relegated to being a set of instructions, then the listener is still presented with more or less the same construct.

Lutosławski, in explaining the use of ad libitum in his aleatoric works, said

“The very concept of collective *ad libitum* can be considered a reaction of composer-performer to the often absurd demands which some composers have made of performers in the last few years…I understand music not only as a series of sound phenomena but also as an activity which is carried out by a group of human beings…”8

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8 Lutosławski quoted in Michael Leslie Klein, 102.
Lutosławski realised during the late 1950s that the type of music he wished to produce, of a type encompassing a new level of complexity, might require a solution other than a more complicated notation. During 1960 he heard a radio broadcast of John Cage’s *Concerto for Piano and Orchestra* (1950),\(^9\) which gave him the idea of using ‘chance’ procedures.\(^{10}\) Lutosławski was not interested in aleatory or chance determining the form of his composition but instead to create a framework inside an ensemble to present new ideas. He himself acknowledges that the use of ‘aleatory’ or the loosening of time connections between sounds is not in itself a great innovation.\(^{11}\)

The rise of indeterminacy after the Second World War was seen by many as something of a reaction against the dominance of serialism that swept much of Europe and the United States of America. The exclusive application of indeterminacy has been the elimination of style.\(^{12}\) It helped Cage intensify the importance of sounds and the environment. Indeterminacy itself is not an entirely invented concept of the twentieth century; examples have been found as early as the eighteenth century. Mozart explored the concept of a ‘musical dice game’ in sketches for his Adagio from the String Quintet K.516 (1787).\(^{14}\) Gustav Mahler explored its uses in woodwind writing, a simple accelerando helping to achieve a sense of aleatory in the first movement of his Symphony No.3 (1893-1896).\(^{15}\) The marking in the score reads “ohne Rücksicht auf die andern (without regard to others).” Much of the later music of American composer, Charles Ives requires indeterminate or aleatoric solutions to the very challenging

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and complex rhythms found in his scores. Parts of his Symphony No.4 (1910-1916) require
the coordinated effort of two conductors each leading an ensemble through disparate musical
threads. Henry Cowell’s Mosaic Quartet (String Quartet No.3, 1934-35) permits the
performers to choose the order of movements; a different form thereby arises out of the same
structure. John Cage’s experiments with compositional form, utilising the I Ching further
developed the role of indeterminacy. The use of chance procedures to help determine form,
structure and performance requirements freed post-war music from “ideas of order” with
“spontaneous actions”.16

A very simple definition of ‘aleatory’ is “A term applied to music whose composition and/or
performance is, to a greater or lesser extent, undetermined by the composer.”17 An expansion
further to this acknowledges that whilst all music is subject to aleatoric interpretation18 the
term usually describes music in which a composer had exercised a deliberate withdrawal of
control in the performed realisation of the music. Three types of scores that employ aleatory
may be distinguished; (i) the use of random procedures in the generation of fixed
compositions; (ii) the allowance of choice to the performer(s) among formal options
stipulated by the composer; and (iii) methods of notation which reduce the composer’s
control over the sounds in a composition.19 While much has been written about the use of
indeterminacy in twentieth century composition, Lutosławski saw the use of aleatory as a
way to shake the bonds of the ensemble. In a lecture given at Tanglewood in 1962,
Lutosławski discusses the uses of two types of aleatory. He calls them “large-scale” and
“small-scale” aleatorism.20 The large-scale decides the whole form of the work by chance,

16 Simms, 360.
17 Paul Griffiths, “Aleatory”
18 As it is impossible for a composer to dictate every performable element of a composition the
performer always resorts to aleatoric solutions in performance.
19 Griffiths, “Aleatory”
20 Skowron, 41.
whilst in the small-scale it is the small details of the work that are subject to chance. It is the use of aleatory on the small scale that Lutosławski developed while the main formal contours remained the determined parameters.  

A large-scale use of aleatory may rely on the performer deciding on the sequence of sections, for example A, B, and C. The freedom of the performer thus creates the possibilities for many separate yet similar works based on the combinations of A, B and C. The role of indeterminacy creates performances where the listener seemingly hears the work each time, even though the same elements are repeated. Small-scale is the type of aleatory Lutosławski saw as “enriching the language of music.” The new rhythmic possibilities of chance enable intricate and subtly endless combinations of instrumental colour in the large-scale musical structures. This formed the basis of Lutoławski’s experiments in aleatoric-counterpoint and allowed the further expansion of his chordal serialism.

Jadwiga Paja discusses the way in which Lutosławski combines the traditional structures of pre-1900 structural organisation with his dodecaphonic and hexachordal structures and aleatoric techniques to create polyphony. Whilst many of Lutoławski’s early works demonstrate contrapuntal techniques such as fugato, canon and stretto, his works in the ‘aleatoric period’ look to the use of unsynchronised polyphonic devices in the instrumental texture to create an aleatoric-counterpoint. The deliberate non-synchronisation of notes and rests ensures that the prevailing pitch structure results in a “diffusional aggregation.” This ensures that the static harmonic sections retain their character but are also afforded harmonic

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21 Skowron, 42.
22 Skowron, 43.
24 Jadwiga, 186.
richness through diffusional techniques. The precise notation of the parts, to be performed *ad libitum*, is designed so that they miss each other thus ensuring a constant but rhythmically interesting aural result.

Lutoławski’s harmony has no connection with the major-minor system instead employing intervallically-determined relationships both vertically and horizontally. From 1960 Lutosławski almost exclusively uses twelve note chords for his compositions; his serial techniques explore the intervallic relationships between the notes of the chords. In the beginning of the first subject from the Fugue from the Preludes and Fugue for 13 solo strings (1972) the intervals used in the 12-note chord are made up of major seconds and perfect fifths. It is the juxtaposition of intervals and their complex iterations that constitutes the polyphony in Lutoławski’s work.

In his earliest work with limited-aleatory, Lutosławski used polyphony across the whole ensemble. In later works polymorphic-polyphonic structures are seen in single instrumental lines. The continual development of “enlargement and amplification of pitch material” dispersed across the ensemble exploits the individual instrumental timbre and in the context of its arrangement, forming “diffusional polyphony”.

Directionality seems to be at the very heart of Lutoławski’s music. The concept of *akcja*, or plot, looks at his attempts to create “truly goal-orientated structures” and “solid musical content”. Reyland looks at what constitutes events in a ‘musical plot’ and how Lutosławski

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26 Jadwiga, 190.
resolved these problems in his works after 1960. Logical applications of succession, culmination and resolution are the major achievements in these works.

Lutoławski’s early education in composition with teacher Witold Malisezewski showed him the importance of the “psychology of form”. The development of syntactical content both harmonic and thematic and the subservience of statistical formal materials to their articulation become the driving force behind Lutoławski’s formal concerns. Malisezewski’s characters of narrative reveal the content of akcja. The four main characters are “narrative, transitionary, introductory and terminative”. Their definitions and character within the relationship of a particular section of form help direct the listener through the various structural stages and goals.

Music of “narrative” character is the most important and forms the basis of the musical argument and dominates the attention of the listener. Lutoławski’s explains this section as:

““I hear this and nothing else occupies my attention”. Passages of a transitional nature: “I hear this, but, above all, I feel that what I hear is leading me on to something different which I shall hear in a moment.” Introductory: “I hear this and realise that actually I am anticipating the hearing of something else.” And Concluding: “I hear this, but I realise that in a moment the whole form or some stage of it is about to end.””

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30 Reyland, 609.
31 Reyland, 610.
32 Lutosławski quoted in Reyland, 611.
The way in which Lutosławski thinks about the passage of musical ideas is crucial to his content and the articulative shape of his forms. His constructions of large-scale forms demonstrate his priority for the mapping of major ‘narrative’ events.

Our first consideration should be the moments of intense musical significance….With these moments we place others, less arresting, which by themselves are of no great intrinsic significance and which would lose their meaning if taken out of their context….because the significance of such moments depends above all on their relationship to other moments of the form….In other words: their significance depends first and foremost on their formal function….These two types of music constitute the foundation upon which to build a larger form, and upon our ability to manipulate them depends the architectural worth of our large forms. 33

The akcja is revealed through the presentation and relationship of important and thematic material. Lutosławski also likens this material to the “entry of new character[s] in a drama”,34 where the main subject takes on the role of protagonist. The workings of his music follow the same interactions, epiphanies, and transformations of the characters in literary plots.35 Lutosławski employs not only harmonic and thematic forms to reveal his akcja but also constructs shapes and events that colour and characterize important musical landmarks.

When I start work, it is as though I am flying over a city, and slowly losing height I can see more and more clearly the outlines, the streets and houses. Naturally I also

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33 Lutosławski quoted in Reyland, 611.
34 Reyland, 610.
35 Reyland, 612.
start work frequently near the ‘earth’, when I see every detail very clearly and in close-up…\textsuperscript{36}

Lutosławski’s music revolves around the shape and substance. The shapes inside the form become crucial to the understanding of the definitions and parameters of sections. Key ideas are often represented through non-traditional shapes and groupings of instrumental colour and moments of “limited-aleatory”. Reyland provides a useful table to show these parameters.

**TABLE 1. Lutosławski’s parameters for the creation of musical ideas**

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Summary of Lutosławski’s description</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘Disposition of sounds in the of a musical gamut’</td>
<td>The registral placement of sounds, the compass sonority, its relative highness or lowness, compactness or looseness</td>
</tr>
<tr>
<td>‘Timbre’</td>
<td>The individual instruments or families playing and the effects on their sounds of register, dynamics, attack, means of tone production, different combinations, etc.</td>
</tr>
<tr>
<td>‘Types of rhythm, and frequency aleatory of impulses’</td>
<td>The contrast between conducted and limited- sections, types, speeds, and complexities of rhythmic groupings, etc.</td>
</tr>
<tr>
<td>‘Intensity’</td>
<td>Dynamic levels and the number of instruments playing</td>
</tr>
</tbody>
</table>

With Maliszewski’s concepts of narrative forms as a basis, Lutosławski was able to adapt these ideas to suit a more contemporary idiom better. The substitution of ‘static’ for Maliszewski’s ‘narrative’ with and the nominating of ‘transitionary, introductory and terminative’ to ‘dynamic’ Lutosławski better explain his musical concepts. Static music and

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37 Reyland, 612.
its characterization of “staying in the same register, with the same timbre and intensity” was linked by the dynamic, “a lack of balance…they exert some kind of force…and direct our attention to what is just about to follow”. \[38\]

Table 2 shows the types of musical characters employed in these forms.

<table>
<thead>
<tr>
<th>Type of event</th>
<th>Maliszewski terms</th>
<th>Desired affect on listener</th>
<th>Musical characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static</td>
<td>Narrative; content</td>
<td>‘I hear this and nothing else occupies my attention’</td>
<td>Sustained harmonies, distinctive motive ideas, No obviously goal-directed changes in tempo, timbre, dynamic level, etc.</td>
</tr>
<tr>
<td>Dynamic</td>
<td>Introductory, transitional, concluding; formal</td>
<td>‘I hear this, but, above all, I feel that what I hear is leading me on to something different which I shall hear in a moment’</td>
<td>Changing harmonies, rapidly evolving or repeated motivic ideas, shifting dynamic levels, more obviously goal-directed changes to dynamic level, rhythm and tempo, timbre, etc.</td>
</tr>
</tbody>
</table>

\[38\] Reyland, 613.
\[39\] Reyland, 613.
Rust examines the question of perception and how the listener can perceive the complexities found in Lutosławski’s musical akcja by defining the musical landscape as regions ‘static’ and ‘dynamic’.⁴⁰ Examples provided from the Second Symphony (1967) pose two important questions. Firstly, how much pitch contour detail can the ear perceive in this music? And secondly, what do those details mean?⁴¹ From an examination of two bars from the Lutosławski’s Symphony No.2 (1967)⁴² and the density of the material, the section he chooses has opposing glissandi in the wind and strings with brass, piano and pizzicato punctuations. The texture of this example calls into question the notion of ‘perception’ and if indeed the casual listener can discern the complexities inherent in the orchestration and texture. Rust uses the word “sound mass”⁴³ but I think this is not entirely accurate to describe Lutosławski’s music. His music does share textural aspects of some of his contemporaries, such as Penderecki, but it is Lutosławski’s dedication to pitch based serialism and not just the exploration of dense sound textures that sets him apart. Lutosławski’s use of established classical forms juxtaposed with “aleatoric-counterpoint” made him a unique voice in twentieth century music.

Rust examines the seven independent voices in the Second Symphony and he questions whether a listener can discern the separate melodic strands, would five or even four voices have been more discernable? It is Lutosławski’s use and manipulation of textural density that is at work. Rust asks; “At a tempo of crotchet = 142 would it not have been easier to write parallel motion for the wind?”⁴⁴ Had Lutosławski done this then the density in the harmonic relationship would have sounded very different. It is these stresses in density and the

⁴¹ Rust, 190.
⁴² Rust, 191.
⁴³ Rust, 192.
⁴⁴ Rust, 193.
relationship between the serial uses of intervals that flavour Lutosławski’s harmonic texture. Textural intricacy results in the passage having a dense harmonic palette, (the addition of voices (seven or eleven) conveys the complexity Lutosławski wrote). Three voices will sound very different from seven, even to a listener with no previous training. Lutosławski’s exploits the dissonance despite the fact that the speed makes it difficult to discern exactly the minutiae in the notation. While this example was strictly notated in $\frac{3}{4}$ these ideas also are apparent in Lutosławski’s ad libitum sections. The controlled manipulation of harmonic material in these sections of limited-aleatory and the resulting level of aleatoric-counterpoint or polyphony lend Lutosławski’s music an aural complexity simultaneous to exploits a simpler rhythmic language.

Rust also discussed with Lutosławski his compositional outlook in an article taken from an interview with the composer in late 1993, and published in 1995 \(^{45}\) just after the composer’s death. The bulk of the interview discusses Lutosławski’s uses of harmony and more importantly the development and research of his twelve-note chordal techniques. Aside from the application of limited-aleatory and the deliberate construction of non-synchronise polyphony, Lutosławski’s entire encompassing goal, structurally, was built from intervallic relationships utilized in combinations of twelve-note chords. Lutosławski was very careful in what he revealed, his dislike of discussing works in progress or details of compositional techniques is apparent. Rust carefully drew answers from Lutosławski about the nature of his compositional devices and the aesthetic standpoint that he composed from. Also discussed is the apparent simplicity, which Lutosławski further develops, in his later works. A parallel between the polyphonic nature of his second and third symphonies allude to refinements in

\(^{45}\) Rust, “Conversation with Witold Lutosławski” 207-223.
his techniques as his aleatory moves from polyphonic building blocks to enhancements in melodic content.

Both Michael Klein and Steven Stucky have made considerable contributions in the field of research of the music of Lutosławski. Stucky’s book, *Lutosławski and his Music* \(^{46}\) examines the work and creative output of Lutosławski beginning with his early years after the Second World War in Warsaw. Lutosławski’s output as a composer in the dark years of Stalin’s domination of the Eastern Bloc countries received harsh criticism, relegating him to virtual obscurity. Works from this early period contained many celebrated works but it was not until Stalin’s death in 1953 and the subsequently relaxation in cultural attitudes, that Lutosławski’s music was able to find an audience in greater Europe and the United States of America. \(^{47}\) It was these same changes in attitude that also fostered the changes Lutosławski employed to develop his unique compositional voice later in his life.

Michael Klein’s doctoral thesis from 1995 examined the interaction of Lutosławski’s pitch, rhythm and form. \(^{48}\) In particular he examines the interactions of these elements within the boundaries of “limited-aleatory” and how they help the music gain a sense of unique identity. Klein has analysed Lutosławski’s methods of twelve-note chordal serialism in the context of aleatory and how both methods of organization helped synthesis his sound. Lutosławski’s development of chordal serialism was his reaction against the twelve-tone serial techniques initiated by Schoenberg but still continuing into the later half of the twentieth century. Serialism relied on the absence of a tonal centre but rather the annunciation of a tone row; Lutosławski wished his serialism to be grounded in harmonic principles that gave importance

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\(^{47}\) Stucky, 58.  
\(^{48}\) Klein, 98.
to the interval and subsequent utterances of notes in relation to intervallic distance.\textsuperscript{49} Lutosławski’s exploration of intervallic relationships found within twelve-note chords helped him achieve a harmonic language that did not rely on the minor second.\textsuperscript{50} By limiting intervallic qualities of a chord, for instance a chord only constructed with intervals of a major second and perfect fifths, Lutosławski was able to manipulate the tension and resolution of harmonic organization in his later works. Similarly the slow moving nature of his harmonic style best suited his developing ideas on aleatory.

Aside from the theoretical writings on the music of Lutosławski, I have found in the composer’s own recordings of his works an endorsement of the techniques he explored. Despite the growing trend of experimentalism in the latter half of the twentieth century, Lutosławski still experienced bias and negativity towards his developing and unique style of notation so much that he embarked on conducting lessons during the 1960s. Many of the memorable recordings of his works are under the baton of the composer himself. In particular the recordings of the Symphony No.2 and \textit{Trois Poèmes d’Henri Michaux}\textsuperscript{51} demonstrate his prowess on the podium and his interpretive flair of his own work. These recordings help understand his methods and techniques of “limited-aleatory” and “polyphonic-aleatory” through the clarity of expression. The use of skillful ensemble writing reveals the success of these methods of articulating aleatory across such a complex group as the modern symphony orchestra. With scores such as these, it is sometimes difficult to gain a clear grasp of the resultant sound from the notation. The aleatory used deliberately misrepresents the beginning, end and synchronization of sections. It is not until the recording has revealed the construction

\textsuperscript{49} Stucky, 241.
\textsuperscript{50} Nikolska, 105.
and juxtaposition of these fragmented ideas that one can understand the deep thinking present in such techniques.

As explained earlier, my own introduction to the recordings of Lutosławski had perhaps presented a false notion of what the music may have looked like. It wasn’t until I read through the score of Symphony No.3 that I could begin to grasp the fluent way in which the notation unfolded. To the uninitiated the music could either sound almost totally improvised or totally controlled. It was the discovery of the successful integration of aleatory and orchestral writing that I realised that my own work may benefit from the same experiments. The goal of my composition folio is to explore and implement methods of controlled or “limited-aleatory” using the notation Lutosławski as a model. Further to the development of my own compositional craft, these models will be a starting point to eventually articulate my own ideas with my own style of notation.

The main works that I have written for this folio and had performed are an opera, a symphonic work with solo baritone and a string quartet. The successful implementation of these techniques and subsequent questions that emerged from rehearsals and performances will be addressed in a later chapter. The working models that are developed in these compositions will provide answers to the questions of complexity and performability that have been at the forefront of my practice. My methodology in the exegesis includes a comparison of aleatoric techniques in Lutosławski’s late period. These correspond to the types of ensembles I have written for. As Lutosławski did not write an opera, the work for chorus and wind orchestra, Trois Poèmes d’Henri Michaux (1963) will be used as a model and compared with my opera, Fire on the Snow. Performance outcomes will also help in

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52 Lutosławski’s late period starts with the completion of Jeux vénitens (1960), his first piece exploring “limited-aleatory” through to the composers death in 1994
testing whether these techniques have provided a workable solution in simplifying my notation and providing a less complex notation.

As previously stated, the aleatoric techniques found in these works of Lutosławski are the starting point as models for the formulation of my own techniques and methods of aleatory, and will continue to inform my composition beyond the scope of the doctorate. The main aim of the composition folio is not to copy or replicate Lutosławski’s techniques exactly but to use them as a solution to my question of complexity. Lutosławski’s compositions sound like his not only for the techniques of limited-aleatory that he devised but also by his manipulation of specific interval combinations used in twelve-note chords. The limited-aleatory is really a by-product of his serial technique, a way for the detail and relationships between intervals to find a polyphonic voice. As will be discussed in an upcoming chapter, my music, though serial in nature does not utilise a convention of using all twelve pitches either through melodic or harmonic means.

The originality to my approach is to enhance my own creative harmonic language and retain a level of rhythmic complexity that I am satisfied with. It must be pointed out that during my process of adopting techniques of limited-aleatory, my own music has shifted from a linear, horizontal serialism to a vertical, chordal method. Whilst I haven’t adopted the same type of intervallic method employed by Lutosławski, I have nevertheless found the shift to chordal serialism satisfying in that it has allowed for greater reliance on intuitive composition. In the early days of my experiments in serial pre-compositional methods I quickly discovered that much of the final piece could be derived from my formulas and methods. Unfortunately these do not make for pieces that capture a listener’s interest, including my own. Refinements of these techniques over time helped my music progress from formulaic exercises to more
intuitively rounded compositions but I have always retained a degree of control over my
material. One major technique in allowing more intuitive elements into my work was to
generate large amounts of musical material (i.e. pitch sequences, rhythmic patterns and
combinations) and apply filters. These filters would help in construction of short scores from
which I could write and orchestrate the music. The main function of a filter is to allow certain
elements through to the next step of the process; this would be determined by my desired
musical result. From much musical material I would excise and filter out what was not
needed. However moving to a more chordal approach that uses the in-built indeterminacy of
limited-aleatoric notation, I only needed to generate small amount of material in which to
expand upon.

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Chapter Two: The simplification of complex notation presented in aleatoric forms

This chapter has been removed for copyright or proprietary reasons.

McIntyre, Scott, The simplification of complex notation presented in aleatoric form, in Poole, Marian. Editor re-Visions: Proceedings of the New Zealand Musicological Society and the Musicological Society of Australia Joint Conference hosted by the University of Otago, Dunedin, New Zealand between 2nd and 4th December 2010, Chapter 3, pages 31 – 43

This publication is available at http://www.msa.org.au/edit/conference_pdfs/Proceedings%20re-Visions%202010%20Conference.pdf
Chapter Three: Methods of Composition

Since my studies as an undergraduate composition student, I have been involved in writing some form of serial music. My fascination began during studies in high school of works by Schoenberg, Berg and Webern. Whilst my admiration for the use of twelve-tone techniques in their works encouraged me to explore these compositional concepts, I was not entirely convinced of using these methods in my own musical output.

Not wanting to use Schoenberg’s method of assigning each semi-tone of the chromatic scale to an equal equivalent prompted the exploration of serial music. Schoenberg’s ideas promote a ‘socialism’ of tonality by removing the chordal hierarchy of Western functional harmony but constant and often rapid iterations of all twelve notes of a row seemed a limitation. The music of the Second Viennese School is very colourful and timbrally diverse and atonal serialism can of course generate many combinations of twelve-tone sequences and their permutations in retrograde and inversion. Nevertheless all twelve tones have to be uttered in order to complete the sequence, this constant sounding of the twelve tones paints a musical landscape that can sound tonally repetitive after a time, no matter how varied the matrices are.

I was more interested in the relationships between notes and the interaction on a contextual level of tones in sequence and the approach to a certain note or series of notes, and the discarding of such notes as sequences reveal themselves. Also the intervallic sequence between the notes in a series could provide interest harmonically. I looked for ways that I

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could generate material to function in a serial context yet the material could choose how many notes it would discard or retain according to its place along the row.\textsuperscript{72}

During this time I also developed a fascination with the relationships, numerically, between letters of the Alphabet and numbers. Many ancient languages such as Greek and Hebrew made use of these relationships to construct abstractions that explored the nature of word formation and semiotic value. Particular words through substitution shared numerical values with others; often these words would have a linked subtext based on these numbers. This is known as Gematria. Further research into methods of generating musical material led to composers that utilised numerical sequences that could form direct relationships between pitch and rhythm, or time-space. It was in the works of Australian composer, Chris Dench where I found convincing methods to apply numbers to generate pitch and rhythm derived from the use of numerical sliders and numerical combinatoriality.\textsuperscript{73}

I wanted to explore this in the use of people’s names or quotes from literature that had some personal meaning for myself. Explorations with these techniques over time helped me to formulate a serialisation my music that also explored a very rhythmically complex music that followed an intricate tonal polyphony. I continued in this trend for many years but grew to eventually reject these processes for a time. The musical results from these ‘exercises’ were not only difficult to perform but even more difficult to listen to, even for myself. I could no longer write music that I no longer felt any connection to, so the next few years I withdrew from the world of concert music composition. After about a decade I felt I had the desire to revisit my serial techniques and began to think about new applications of serialism but in a

\textsuperscript{72} My use of the word ‘row’ differs from Schoenberg’s; whereas his definition relates to a sequence of twelve non-repeated tones, mine refers to an entire sequence that could encompass many repetitions of similar notes.

\textsuperscript{73} Richard Toop, “Sulle scale della fenice.” Perspectives of New Music 29, no.2 (1991): 72-92
new type of musical sound world. I retained those elements of serialism that I had experimented with earlier but imagined a way that the musical outcomes could be shaped differently.

Many of these early serial pieces utilised the sequence across all musical choices. Not only did the numbers govern pitch and time, but also helped generate dynamics, articulations, density in orchestration, tessitura of the range etc. Also these early serial pieces made little room for practical considerations of musical gesture, performability of the music or timing in relation to musical structure. The new approach to adopted serial techniques would still utilise those relationships between letters and numbers but would treat this process as the generation of data only. Whereas composers of traditional diatonic music would explore musical forms through the interaction of chord changes and voice leading, here the numbers would generate material in the same way (that is to say, my music whilst being concerned with the movement of pitches and intervals, I am not so much concerned with the specific pitches that can do this). Data can be shaped and used accordingly to build a musical skeleton; the generation of musical material reveals a structure but never dictates the final outcome of the piece. This new approach would allow a more intuitive use of procedural musical data.

All of my compositions are initially constructed in the same way, when thinking about the development of an idea I begin with this same technique but the trick lies in how to manipulate or arrange the data to give the desired musical result. A piece may be fast or slow, legato or staccato or both. It will be for a specific combination of instruments; all of these factors can influence the design of the preliminary material.
The following analysis of my methodology looks at the structures derived for my opera, *Fire on the Snow*. As mentioned earlier, I was interested in the use of Gematria in its ability to convert letters into numbers and its symbolic value. This helped me to personalise pieces so that a new piece written for a specific performer could be entirely based upon the letters of their name. I was attracted to the uniqueness of these techniques and the level of symbolism it represented. It was a way to personalise the music and imbue it with a deeper meaning that would not be apparent to the listener.

With *Fire on the Snow*, logically the central figure of the story was Captain Robert Falcon Scott. As a starting point for a combination or sequence of letters the use of his name as the basis of the opera seemed obvious. I chose to use his given names, as they would provide a data string of base twelve. Using R O B E R T S C O T T would only give me eleven numbers, which did not fit into my desired parameters. This will be explained in a further chapter. However, the letters, R O B E R T F A L C O N, gave me twelve letters.\(^{74}\)

\[
\text{R O B E R T F A L C O N}
\]

Primary 18 15 2 5 18 20 6 1 12 3 15 14

This first set of numbers (data string) relates to the numerical position of each letter between 1-26. This is the initial sequence from which all data is extracted. Also in this case, this is the primary letter sequence of this particular piece.\(^{75}\)

\(^{74}\) Most people know Scott as Captain Scott, which is also twelve letters but I felt the use of his actual names, not a title of rank, was more suitable.

\(^{75}\) A secondary data string would be used for the central scene based from A N T A R C T I C A. Although *Fire on the Snow* only uses two sequences (R O B E R T F A L C O N and A N T A R C T I C A) many pieces I have written combine more than one data string. In my second and third string quartets the letters from the names of each player were used to create their own unique part in the piece. The material for my piano sonata, *Vacuum Metastability Event* (2009) used ten data strings arranged as a crossword puzzle.
Once the primary data string has been determined then a secondary one can be generated.

<table>
<thead>
<tr>
<th>Primary</th>
<th>18</th>
<th>15</th>
<th>2</th>
<th>5</th>
<th>18</th>
<th>20</th>
<th>6</th>
<th>1</th>
<th>12</th>
<th>3</th>
<th>15</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary</td>
<td>10</td>
<td>8</td>
<td>2</td>
<td>4</td>
<td>11</td>
<td>12</td>
<td>5</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>9</td>
<td>7</td>
</tr>
</tbody>
</table>

This second set of numbers relates to the numerical hierarchy of each letter in the primary data string. The twelve numbers in this string are arranged in a sequence that mirrors their numeric value in the alphabet. If the letter with the smallest value is A (equal to 1) and the highest is T (equal to 12), then R is equivalent in value to 10 and so forth. As many words we use often repeat certain letters, for the sake of consistency I always assume the second subsequent iteration of this letter in the initial sequence is the higher value. The letters R O B E R T F A L C O N string contain two Rs and two Os. The first statement of a letter will be the higher value to subsequent repetitions. Thus the first R is the tenth highest number in the sequence, the next R is the eleventh. The same with the O; the first O is the eighth highest letter, and then the next O is the ninth.

This secondary set of numbers is quite important. This sequence helps to provide sequential combinations of the initial line. Matrices can be derived based on an $x$ and $y$ axis (fig.3.1). So with the sequence 10, 8, 2, 4, 11, 12, 5, 1, 6, 3, 9, 7 lying along both axes I can extrapolate the rest of the square.
So the number of steps between each number is always going to remain consistent utilising base twelve. The number of steps between the first two numbers in the sequence (10 and 8) is always ten steps in base twelve, the next (8 and 2) is six, the next (2 and 4) is two and so on. The $x$ line can be completed and the $y$ line filled in from the data from $x$. As each new line of $x$ is calculated then line $y$ can be filled in to complete the sequence.
### Primary Matrix

<table>
<thead>
<tr>
<th></th>
<th>10</th>
<th>8</th>
<th>2</th>
<th>4</th>
<th>11</th>
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</tbody>
</table>
The resultant matrix is finished (fig.3.3) and we have a matrix that always expresses the same distance between all numbers in the data string that relates to the initial sequence.

Once this matrix is calculated it is then easy to extrapolate a matrix constructed from the primary data string through the use of substitution.

Primary     18 15 2 5 18 20 6 1 12 3 15 14
Secondary 10 8 2 4 11 12 5 1 6 3 9 7

Looking at the relationship between the numbers in both primary and secondary data strings, we substitute the numbers to make a matrix derived from primary numbers. (fig.3.4). For
example, all occurrences of 10 in the secondary string are replaced with 18 for the primary. All 8s are replaced with 15 and so on. Because the secondary string contains no repeated numbers, it is necessary to complete that secondary matrix first in order to extrapolate the primary.

**fig.3.4 Substitution matrix**

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From this matrix square rhythm can also be manipulated. These numbers can govern sectional durations and deeper nestings (ie. minutes, bars, rhythms, isorhythmic sequences, etc.)

The other pieces of important data are the cumulative values that these strings yield. In the case of the secondary string it is a simple matter of working out a summation using twelve
numbers. This produces varied results for data strings of different lengths of course. A data string of only two numbers\(^{76}\) will yield a value of three. A data string of three will yield a value of six. This is easily calculated by adding from one through to the final number. So a data string of twelve will produce a value of seventy-eight. As mentioned earlier, material is chosen to help realise the initial soundworld and ideas for each piece. A summation of seventy-eight is of a relatively average value to me. A data string of perhaps, twenty would yield a very high summation output, two hundred and ten.

This summation output can also be helpful in determining important structural elements. I roughly envisaged a ninety-minute work for Fire on the Snow, the twelve scenes that employ the ROBERTFALCON data string could quite feasibly be seventy-eight minutes in length, theoretically that is.\(^{77}\)

My final piece of data to extract is possibly the most complicated. Rather than a summation sequence employed with the secondary data string, I use a cumulative method with the primary data string.

\[
\begin{array}{cccccccccccc}
R & O & B & E & R & T & F & A & L & C & O & N \\
Primary & 18 & 15 & 2 & 5 & 18 & 20 & 6 & 1 & 12 & 3 & 15 & 14 \\
Cumulative & 18 & 33 & 35 & 40 & 58 & 78 & 84 & 85 & 97 & 100 & 115 & 129 \\
\end{array}
\]

\(^{76}\) I have never used a data string of such a small value. I have always considered three to be the smallest data string pertaining to any useful information.

\(^{77}\) It is worth noting that actual lengths of score and their subsequent performance can vary greatly so these numbers are purely academic in a structural context.
The cumulative sequence is derived from the subsequent addition of the numbers in the primary data string. So 18 plus 15 yields 33, 33 plus 2 is 35 and so on. The final total of 129 is the cumulative value of all numbers in the primary data string.

This new data string can also be laid out on an x and y-axis along the bottom and right column so that the largest value resides in the bottom right corner of the matrix.

*fig.3.5 Slider Matrix*

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To fill in the rest of the matrix each row is divided by the value of row L (this figure is essentially a percentage of L) and then multiplying it by each subsequent column. For example we divide A12 by the value of L12 (a value of 0.13953) and multiply that value by L1 (2.51162). This number becomes the value of A1 (which is 0.13953 x L1), This sequence of multiplication is repeated (L2 for A2, L3 for A3 etc.) until row A is complete. (*fig.3.6*).

Row A is each value of row L multiplied by a factor of 0.13953 and then rounded to the nearest integer.

*fig.3.6 Slider Matrix*

\[
\begin{array}{cccccccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 & 11 & 12 \\
A & 3 & 5 & 5 & 6 & 8 & 11 & 12 & 12 & 14 & 14 & 16 & 18 \\
B & 5 & & & & & & & & & & & 33 \\
C & 5 & & & & & & & & & & & 35 \\
D & 6 & & & & & & & & & & & 40 \\
E & 8 & & & & & & & & & & & 58 \\
F & 11 & & & & & & & & & & & 78 \\
G & 12 & & & & & & & & & & & 84 \\
H & 12 & & & & & & & & & & & 85 \\
I & 14 & & & & & & & & & & & 97 \\
J & 14 & & & & & & & & & & & 100 \\
K & 16 & & & & & & & & & & & 115 \\
L & 18 & 33 & 35 & 40 & 58 & 78 & 84 & 85 & 97 & 100 & 115 & 129 \\
\end{array}
\]
Row A and column 1 are identical so they can complete the x and y data. All of these values originally were numbers with decimal places but to make things smoother they are rounded up or down to integers.

So following the sequence of division and multiplication, B12 is divided by L12, this value is then multiplied subsequently by B1 through 12 and the next row and column are completed.

*fig.3.7 Slider Matrix*

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This completed matrix (*fig.3.8*) consists of a set of values that constitute a numerical ‘slider’.

Each subsequent row is a larger percentage (which is related to from lowest to highest numbers of the cumulative addition from the *primary* data string) until the highest value of 129 is reached.

*Fig.3.9* shows as a graph how each increase in value ‘slides’ the sequence upwards into a more exaggerated curve than the preceding set. Whereas the primary data set is useful when applying to length of sections, rhythms, bars etc., and the secondary data string is useful in
generating combinations of sequences.

fig.3.9 Slider Chart
The slider is designed to generate pitch data. The value of 1 may equal the lowest note of the piano (A₀₀, where middle C is C₄) and 88 could be the highest (C₉). Sometimes the largest value and the number of possible pitches on any one instrument or ensemble do not correlate. In these cases decisions are made as to which number of pitches could be used or an adjustment slider values may be needed. These decisions again relate the desired musical output, this data only relates to the generation of material, not to the act of creative composing itself.

It may be necessary to apply a filter to ‘squash’ the numbers down to a more appropriate value. For Fire on the Snow the range was limited to the five octaves between C₂ and C₇ (fig.3.10). Because the nature of the data it is possible to derive a pitch set that starts in the lowest parts of the register and lift quite slowly. Also the highest values can yield extremely high pitches that may overstay their welcome. By limiting the pitches to five octaves, extremes found in the instrumental ensemble can be choices in the orchestration rather than dictates of a pitch set. The five octaves then provided me with sixty-one pitch values. Rather than compress the value of 129 to match the 61 pitches (47.286 %), I decided to descend once pitch 61 had been reached, ergo pitch 62 is the previous B that is pitch 60 and so on. Upon reaching pitch 121 the need to ascend again until G♯₂ is reached as pitch 129.

fig.3.10 Pitch range
The numbers from fig.3.8 are then represented in pitches from fig.3.10, each row containing twelve pitches that can also correspond to each column.
In fig. 3.11 the rows have been inverted to match the graph (fig. 3.9) to show the contour of the numbers. Re-orientating from rows L-A to A-L (fig. 3.12) shows the starting point of my pitch set.

*fig. 3.12 Slider and pitch (inversion)*
Next the secondary matrix (fig.3.3) is laid over the 12 by 12 pitch matrix (fig.3.12). If broken up into two stages, then fig.3.13 shows the rows re-arranged to 10 8 2 4 11 12 5 1 6 3 9 7, then each column arranged in the same sequence (fig.3.14).

fig.3.13 Slider and pitch with Primary pitch matrix row overlay

---

78 10 8 2 4 11 12 5 1 6 3 9 7 as their alphabetic value becomes J H B D K L E A F C I G
The result is the pitches from fig. 3.12 arranged in the same combination as fig. 3.3, resulting in fig. 3.14.

fig. 3.14 Slider and pitch with Primary pitch matrix row and column overlay
This is a raw matrix of a sequence of 144 pitches from which can be fleshed out to a melodic or harmonic pattern. Looking at the new first row, J (fig. 3.15) there is a twelve-note pitch sequence.

*fig. 3.15 J10 from fig. 3.14*

The next number of steps involves ‘growing’ a longer pitch sequence, expanding the 144 pitches into 936 pitches. This number is the result of 1 through 12 multiplied by 12.

To do this I take the first value assigned to the first note (J10 from *fig. 3.14*). This number 10 (from the initial 10 8 2 4 11 12 5 1 6 3 9 7 of the first line of the secondary matrix) starts the sequence. The first 10 notes begin the expanded pitch sequence. (*fig. 3.16*).

*fig. 3.16 J10 from fig. 3.14*
Next the sequence starts on the second pitch (J8), discarding the first pitch (J10 as we have already used that pitch as a starting point), which has the number 8 assigned to it and so the next 8 pitches are utilised. (fig.3.17).

\[\text{fig.3.17 J8 from fig.3.14}\]

\[\text{fig.3.18 J2 from fig.3.14}\]

\[\text{fig.3.19 J4 from fig.3.14}\]

Then the next pitch (J2), 2 pitches (fig.3.18), and the next (fig.3.19) and so on.
When a pitch number larger than the remaining number of pitches left in the row is encountered (e.g. pitch assigned to 11 fig.3.20), the row is continued into the next row (fig.3.14). As a result the expanded pitch sequence at the end of the last row (L) feeds back into the very first row, a type of cyclic pitch sequence is derived that closes the sequence as it began more or less. The resultant expanded sequence for the first row is shown in fig.3.20, Fig.3.21 showing highlighted in red the original 12 notes of the first (10) row. By expanding all of the rows in this manner, we arrive at the result of 936 pitches.

*fig.3.20 Row J (expanded sequence) from fig.3.14*
A characteristic of this sequence is the context of the pitches through approach and intervals as newer pitches are allowed into the string alters and further changed as previous pitches drop out as the sequence.

Much of my previous music focused on the use of melody and polyphony, this technique of an expanded melodic string helped create pieces with very complex horizontal lines. A growing use of aleatory would be to adapt pitch into a more harmonic function. As previously discussed, Lutosławski’s own use of limited-aleatory functioned as an aleatoric counterpoint that enabled textural prolonging of chords. The employment of orchestration techniques would be designed to underscore vocals, pitches would then function as chords much of the time, not as complex polyphonic melodic strings.

Looking at fig.3.20, we can imagine that each group of pitches could be seen as a virtual measure (there are twelve measures for each row that now include a one pitch measure through to twelve pitches), adopting a method where each virtual measure can be treated as the basis of a chord. Now as a chord by definition is more than 1 pitch, certain values need to
be filtered out. Any measure over 8 notes might become harmonically too dense; alternatively measures with three notes would be my minimum values.

Fig. 3.22 shows how this works. The first measure of 10 is kept as melody (as it is greater than 8 pitches), the next measure of 8 pitches forms a chord (I also keep the original melodic virtual measure for variety). The next measure of 2 is melody; the next of 4 becomes a chord. As the pitches are converted to chords, a pattern in the numbers emerges that can help with a shift between melodic and chordal sections. This could also dramatically help shape the score, highlighting the various changes between vocal recitative, orchestral interludes and melodic vocal writing.

Fig. 3.22 Row J10 through J4 (expanded sequence with chords) from fig. 3.14

The occurrence of chords would be key areas where important vocal moments would happen, stresses in the text and drama of the narrative. Time and space is utilised to help deliver the impact of the narrative and the lyrical text.

---

79 Note that in my original short score pitch number four in the beginning sequence 10 was mistakenly notated as D4, not F#4 as shown in Fig.22
Sometimes it was necessary to adjust the sequence of melodic and chordal sections. These methods are employed to create musical material but do not necessarily always yield practical or musical results. I tend to treat these results as a framework or skeleton on which to hang the creative choices I make.

We now have a structural map of twelve scenes (1-6, 8-13) and a separate structural map for scene seven based on the letters A N T A R C T I C A. This structure of twelve scenes, each containing twelve virtual bars, theoretically totals a duration of seventy-eight minutes. The seventy-eight minutes was chosen as the length of these twelve scenes as the number comes from the summation of all the numbers from 1 through 12. Patterns already emerge in the structure that can determine the dramatic path of the narrative. To determine the length of each scene it was necessary to further refine the libretto to determine exactly how much and which parts of the text to use. A simple word count of each finalised scene showed me the length of each scene concerning narrative and dialogue. Reading through aloud can help time the length of dialogue but not necessarily the musical space, I allowed the growth of musical ideas and performance considerations to work in each scene. As stated before, these frameworks can only function as structural underpinning, not an unswerving, exact plan. If certain scenes ran longer for the sake of narrative and dramatic allowances then so be it. The theoretical seventy-eight minutes for these scenes were just a guide. From looking at the first page of the short score (fig.3.23) we can see the development of the dramatic shape of the work in the sketches. Shapes are picked out, tessituras of pitches are re-evaluated to heighten dramatic impact and develop the libretto through the musical landscape.

---

80 I would later find out in rehearsals that the length of the opera would grow by a further twenty per cent; this will be discussed in a later chapter.
Example of short score, page one showing possible chords and voice leading trajectories.
Chapter Four: Dramatic use of aleatory in Fire on the Snow

An opportunity came up in late 2009 to write an opera based on the radio play, Fire on the Snow, by New Zealand born playwright, Douglas Stewart. As I was already applying for PhD placement I was looking for a large-scale project that could carry sufficient weight in my folio. I had only written one vocal piece to date, Cenozoic – 7 Guitar songs for two guitars and soprano. These were a series of seven serial songs that had originally been written as instrumental pieces. I adapted the vocal part from the instrumental lines and as a result, hadn’t really written a vocal piece with guitar accompaniment but an instrumental trio. The vocal part was sung by soprano Deborah Kayser (who performs for the contemporary ensemble, Elision) and she told me after the performance that it was the hardest piece she has ever sung. This piece was written use more difficult sub divisions in the context of 4/4 or 5/4 bars. This was a piece where I had already begun to question the necessity of the bar line. It often crossed beats and smaller subdivisions and sounded pulseless. Looking back to the work of Lutosławski I wondered if this piece could not be written in a different way. Indeed some of the more complicated parts of the ensemble writing clearly were more ‘felt’ than accurately counted. This was the aleatoric solution coming into play against complex notation.

Work on the libretto commenced early 2010, started by Sydney based actor, Paul Weingott. He had secured the rights to Stewart’s radio play and had been searching for a composer to collaborate with since the late 1990s. He started and continued almost until June 2010. I had not wanted to start the opera until June 1 2010; the day exactly one hundred years after the Terra Nova had set sail from Dover with the ill-fated expedition on board. The original play contained pages of exposition from the characters about the endless marching and their
physical endurances. The elements that attracted me to the project were my fascination with
cold climates, the idea that the absence of warmth could impede our bodily functions and
eventually led to death. This path is also fraught with physical pain and endurance. A musical
depiction or exploration of the landscape and indeed the survival of ‘man’ against such
conditions also interested me. The idea of the blizzard was a powerful motif used in the play
and indeed the actual events they were based upon. It was supposedly a ten-day blizzard,
which had killed the remaining members of the Final March to the Pole.

Using models of Lutosławski’s works as a starting point for my own aleatory, there was some
difficulty in choosing a work to use as a model for the opera, *Fire on the Snow*. Lutosławski’s
vocal output consisted of only a couple of pieces for solo voice and orchestra, *Paroles tisseés*
20 solo singers and orchestra is his only choral work from his aleatoric period. Of opera,
Lutosławski said the idea of people suddenly breaking into song in everyday situations was
absurd to him. As the *Trois Poèmes* is an early work in Lutosławski’s aleatoric output and
shows developmental techniques in the formulation of his aleatoric notation, it made an ideal
model in the formulation of my own techniques. Although it doesn’t contain any solo vocal
parts it does rely on the chance nature and collisions in the context of choral writing. Parts of
my opera also contain a loose choral texture, that is to say, choral writing without clear
synchronization to create a chaotic effect.

Lutosławski also sought in the setting of Michaux’s text, to convey a series of strong emotive
connections through drama that would synthesize the relationships of his *ackja* with

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disconnected motifs. In particular, the central movement in his *Trois poems d’Henri Michaux, Le Grand combat*, relies on the use of disconnectedness in presenting its dramatic shape. The surrealism of the text attracted Lutosławski towards a verbal and musical perception that was sympathetic to the dream world of the poem.

Lutosławski sought to develop musical motives that could mirror speech patterns in the text, repetition and incoherentness the main feature of the movement’s central battle. The use of limited-aleatory seems ideal for this model as the concept of time is fragmented and the semantic patterns of the text become purely phonetic. This seemed to suit the central aims of *Fire on the Snow* in the way the text should be presented in not only Scene 8 but other scenes.

In looking at parts of the entire work but focusing mostly on the middle movement, *Le grand combat* as it contains more relevant examples relating to my aleatoric models. The other movements do contain examples that relate to the treatment of recitative style in operatic vocal writing. The large sense of space created by the ambiguous assembly of material, free form sections where pauses in the orchestration allow the voices to get through their parts in their own time. Use of the orchestra in opera is often exploited to allow the singers an appropriate space to recite lyrics or spoken word. Fermatas are used to put the accompaniment in holding patterns while the vocalists sing extended passages; time is more elastic to allow individual and personal interpretations by the vocalists.

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84 Aubigny, 60.
85 Aubigny, 61-62.
86 Aubigny, 62.
As previously explained the starting point for many of my compositions has been the structural use of letters and numbers. My fascination has been with the numerical equivalents of letters of the alphabet and how any word can be converted to a numerical sequence. As with many composers in the past that have ascribed musical pitches to letters of the alphabet, e.g. A=A, B = Bb, H= B nat. etc., this system can be limiting as there is only a small number of pitch to note conversions that can be used. The process of converting letters of the alphabet to raw numbers gives a greater number and hence more combinations of raw data.

As a composer that has avoided the use of programmatic associations in music, the more preferable term would be ‘pure music’, music that is devoid of any extra-musical content that may describe and emotion. Music is about the infinite combinations of pitch over time and the interest such combinations can generate in the listener’s experience. A preference for assigning extra musical meaning to pre-compositional material is sought instead. The symbology inherent in the use of letters and their numerical equivalents have served as structural components and have become the building blocks for my music.

In the case of an opera, there are extra musical associations that cannot be ignored by the very nature of what an opera is. Immediately we are aware with an opera that there is a narrative to tell, a libretto that is in effect the screenplay for the work. These narratives whether they be about the lives of everyday people or the achievements of heroes or the clashes of gods and monarchs, contain narrative information to help the listener (or viewer) experience an emotional connection with the work. At this point clarification of my work is needed to show the embracing of ‘pure music’ concepts to inbue them with a dramatic context. This is a rejection programmatic content and only shows interests in the dramatic trajectories that music can take. Pure music can still contain more than the sum of its parts
despite being devoid of a program or a story. Passages of music can draw us towards a main idea, or suggest an introduction or a conclusion.

As with Lutosławski’s music in relation to his *ackja*, I attempt to construct my own musical narrative around the shapes and musical structure. The shapes inside the form become crucial to the understanding of the definitions and parameters of sections.

Going back to use of gematria contained within words, writing an opera gave me chance to bury extra-musical ideas into the structure but at the same time try to tell a musical story in this framework. The libretto is a collection of words but to use sections of passages would prove to be too much structural information. The libretto of course tells the story so I searched for words with symbology and meaning to the work. The obvious place to start was the name of the main protagonist of the story. Robert Falcon Scott has gained considerable notoriety in the last century by being the man who was beaten to the South Pole. I felt that the work should contain symbology connected to his name or the gematria connected the letters in his name. After work on the libretto yielded thirteen scenes to explore the narrative, I needed a certain number of letters to mirror this structure. The twelve letters ROBERTSCOTT plus the middle act; Act 7 would be derived from the letters ANTARCTICA. This middle scene plus twelve scenes would yield thirteen, a number infamous for its connotations with ill fortune and bad luck. With Antarctica sitting in the middle scene, the symbology of the narrative ‘revolving’ around this central point and the outer scenes reflecting polar opposites of each other. The idea of the story ‘revolving’ around the continent appealed to me. The story would also work backwards from the end and forwards from the beginning, I wanted the scenes to contain mirror images of their antipodean counterparts. I also felt that turning the scenes around at the opening provided a ‘polar’ twist to the narrative. Also instead of telling the story in a linear time structure, I
wanted the narrative to rely on memory and hindsight. The opening reveals the perished members of the Scott expedition whilst the ending is the memory of leaving England to embark on a heroic enterprise.

As Lutosławski had never composed an opera, I had to look to his vocal works to find suitable models of aleatoric composition for voice. One of his earlier works after his apotheosis in the early 1960s as to the possibilities of limited-aleatory, were the *Trois Poèmes d’Henri Michaux* that musically set the “mescaline-fueled prose” of Henri Michaux.\(^8^7\) Not only does this work number amongst the few choral works of Lutosławski but it also represent an early score to his Late period after his aleatoric apotheosis of the 1960s. Like the early works, *Jeux vénitiens* (1960) and the *String Quartet* (1965), *Trois Poèmes* shares many similar notational traits while inventing others. Indeed many of these techniques of this time would be carried through into the Second and Third Symphonies and later works in the 1970s whilst others would not be used again.

\(^{87}\) Stucky, 142
**Fig. 4.1** Table of Lutosławski’s limited-aleatoric symbols

<table>
<thead>
<tr>
<th>SYNCHRONIZATION</th>
<th>DURATION AND ARTICULATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>In metrical music, vertical strokes aligning the noteheads but not passing through the staves replace traditional barlines in <em>Jeux</em>, <em>Poèmes</em>, and the Quartet (using broken lines), the Cello Concerto and Preludes and Fugue (using solid lines), <em>Peroles</em>, <em>Second Symphony</em>, <em>Livre</em>, and <em>Mi-parti</em> use conventional barlines.</td>
<td>Repetitions of the same pitch. Used occasionally in <em>Jeux</em>, consistently since <em>Poèmes</em>.</td>
</tr>
<tr>
<td>In <em>Poèmes</em>, conductor’s signal to begin an ad libitum section.</td>
<td>In <em>Jeux</em>, horizontal distance between noteheads corresponds proportionally to time interval between attack points.</td>
</tr>
<tr>
<td>From <em>Peroles</em> to the present, conductor’s signal to begin an ad libitum section.</td>
<td>In <em>Poèmes</em>, the shortest possible sounds. Horizontal distance corresponds to time between attack points.</td>
</tr>
<tr>
<td>From <em>Poèmes</em> to the present, traditional a battuta beats.</td>
<td>In <em>Poèmes</em>, length of beam corresponds to duration, according to the scale 2.5 cm. = 1 second.</td>
</tr>
<tr>
<td>In <em>Mi-parti</em>, left-hand beats.</td>
<td>In <em>Livre</em>, time between attack points is proportional to horizontal distance, and the length of a beam represents duration. Scale is generally specified in the parts.</td>
</tr>
<tr>
<td>In <em>Jeux</em>, cues to individual sections.</td>
<td>In <em>Livre</em>, solid beams indicate legato for woodwinds and brass; broken beams indicate tonguing. The length of the beams is proportional to duration.</td>
</tr>
<tr>
<td>In <em>Cello Concerto</em>, left-hand cues to individual sections.</td>
<td>From <em>Poèmes</em> to present, notation for the duration of glissando.</td>
</tr>
<tr>
<td>In <em>Second Symphony</em>, <em>Livre</em>, <em>Preludes</em> and <em>Fugue</em>, and <em>Mi-parti</em>, left-hand cues to individual sections.</td>
<td>The length of fermate is often left up to the individual player. For strings, 3 often equals one whole bow.</td>
</tr>
<tr>
<td>Break off the repeated passage immediately at the conductor’s signal. Consistent since <em>Poèmes</em>.</td>
<td></td>
</tr>
<tr>
<td>At the conductor’s signal play up to the next repeat sign (or rest, etc., usually specified) and then stop (or go on, etc., specified). Consistent since <em>Poèmes</em>.</td>
<td></td>
</tr>
</tbody>
</table>

*Fig. 4.1* shows how notations of synchronisation and durations/articulations have changed throughout Lutosławski’s late period. Whilst he maintained a strict consistency in his notation, it nevertheless took many years to develop this style. In most cases a successful implementation of notation remained in his notational canon while some others did not. The techniques that remained to be widely utilised in his scores throughout the 1970s and 1980s were the treatment of repetitive cells.

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88 Stucky, 115
The straight line in the first example of fig.4.2 indicates an abrupt change to the repeated cell, usually reserved for the end of a major section or a sudden change in instrumental textures. The second figure with the wavy line is almost exclusively used by Lutosławski to stagger changes and blur the synchronization in textural and chord changes. These devices helped in the harmonic transitions of Lutosławski’s work and were adopted as models in my own compositions.

With a large scale vocal work the focus is the text and the narrative this conveys to the listener. From working the original radio play into the libretto it became increasingly clear that the text was more a prosaic language mostly devoid of poetic descriptions. This was not to say the text was dull or turgid but it focused more on the humdrum existence and hardships of the members of Scott’s party as they fought constantly against the freezing elements. It then became necessary to think about an operatic style or delivery of the text that both delivered the narrative and important exposition but to also to set this against a backdrop that suggested the inhospitable environment that ultimately destroyed them.

89 Stucky, 115
The approach was to clearly delineate the function of the text into expositional and the imaginative. What was happening in the narrative would be sung as per written in the original radio play; what the members of the party were thinking would be in the orchestration. Methods such as these have had a long tradition in opera particularly in the twentieth-century. Alban Berg’s *Wozzeck* is a perfect example of this; the madness of Wozzeck not only exists in his speech but also in his thoughts. Berg’s remarkable orchestration perfectly depicts his lunacy underpinning a tortured prose.

This method would allow me to explore the meaning of the text on a personal level for each vocalist or member of the party and word paint with the orchestra as accompaniment. It would also allow me to paint a fantastical backdrop against the narrative and describe the environment in which they faced. As with any wilderness, it was the physical endurance against extreme elements that led to their downfall. Extreme cold and weather played a part in their deaths. As stated earlier, the structure of the opera sought to pit musical ideas of the party against Antarctica. The introduction of a brass quartet (two trumpets, horn, trombone and bass trombone) early in the writing process gave me a way to more humanise the musical language for Scott and his party. These five brass instruments would represent the physical bodies of Scott et al. in their warmth set against the harsh cold of the strings, percussion and keyboards. I deliberately orchestrated the orchestra to mimic cold sonorities; ice, blizzards and wind are very omnipresent in the score. The emotional, physical and mental states of the party would be scored in different ways with the brass. As they sung what they did and what they thought would be reflected in the brass techniques utilised.

One of the earliest ideas in preparing to write the opera was representation of the cold. Much of the Earth’s population live in cold environments but the Polar Regions experience the
coldest temperatures ever recorded. Temperatures as low as minus 89.2 degrees\textsuperscript{90} Celsius have been recorded in Antarctica and on average temperatures experienced during the Terra Nova Expedition from 1910-1912 were between minus thirty to minus sixty degrees Celsius during the winter months. Quite simply put, cold is the absence of warmth so the score needed to be devoid of any warmth. The addition of the brass quintet provided the context for this to occur, the sapping of strength in the brass parts, the domination of the colder orchestration, had to transport the listener to Antarctica.

To convey the Antarctic environment would require an orchestral painting of the weather such as blizzards, wind and snow. The physical endurance of the men had to be represented; the constant marching, physical exertion of sled hauling and the constantly uneven terrain of crevices and sastrugi\textsuperscript{91}.

Adopting Lutosławski’s models of limited-aleatory would help in orchestrating these environmental elements. Notational complexity would be needed to musically describe blizzards, ice and wind. Limited-aleatory could provide a way of doing this without creating an overly demanding score for the orchestra. Also one of the methods used in the sketches for this opera (discussed in the previous chapter) would be the movement of chords over time, a musical structure built in vertical movement as opposed to the horizontal or polyphonic as previously found in my earlier compositions. Some of these chords would be required to last for many tens of seconds or a couple of minutes; techniques of limited-aleatory can help extend prolonged or slow chordal movement.

\textsuperscript{90} http://www.livescience.com/9795-story-earth-coldest-temperature.html (accessed May 12, 2013)

\textsuperscript{91} These are parallel, wave-like ridges caused by winds on the hard surfaces of snow, usually in Polar Regions.
Scene 8 will be discussed to demonstrate these techniques. Whilst much of the opera contains techniques of limited-aleatory it is Scene 8 that contains all of the techniques mixed with the use of regular metrical time. Also emotionally Scene 8 has to convey the madness of Seaman Evans\textsuperscript{92} and his untimely demise in the snow. The narrative of these events had to be represented; also the elements and the weather and also the physiological condition of Evans had to be realised in the orchestration. As discussed earlier, Lutosławski’s lack of operatic output pointed to the *Trois Poèmes d’Henri Michaux* (1964) as a model for the techniques of limited-aleatory in a vocal context. More specifically it is the middle movement, *Le grand combat* that contains many of the techniques employed in Scene 8. Not least amongst these techniques is the overt use of percussion apparent in this music. (\textit{fig.4.3}) Having only one percussionist in the orchestra, the score included percussion toys for the violin and viola players plus a modest percussion setup for the keyboard player. Using techniques of limited-aleatory helped achieve a degree of complexity in these extra percussion parts whilst acknowledging the expectation of limited percussion skills found amongst keyboard and string players. The use of small repeated cells of motivic shapes for these parts helped layer a complexity of rhythmic variety that helped expand the percussion forces to eight players. Limited-aleatory in these parts helped ensure a rhythmic variety that was not technically demanding but conveyed a sense of rhythmic complexity. In \textit{fig.4.4} we can see the percussion parts for the violins and violas at cue 109. The layering of specific and non-specific rhythmic cells forms a counterpoint with the percussionist’s part and helps convey the sound of many layers of complex percussion.

On a first listen, *Le grand combat* presents a calamitous battering of percussion and non-sung vocal effects. Despite the chaotic nature of the piece the score reveals a surprising level of

\textsuperscript{92} Seaman Edgar Evans was the first of Scott’s expedition to the Pole to die from the freezing conditions endured during the Final March.
control that characterises Lutosławski’s music. The vocal techniques used in this movement consist of vocal chattering, shouts, whispering and whooping interjections.

“In my work on the score, I am trying to figure out how particular phrases would sound in everyday use. Sometimes I shouted them out and then wrote them down…”

fig. 4.3 Lutosławski *Trois Poèmes d’Henri Michaux*, 2nd movement “Le grand combat” 94

94 Note that this example is edited.
fig. 4.4 McIntyre Fire on the Snow, Cue 109
The use of vocal text in such a non-traditional way could be linked to Lutosławski’s dislike of sung verse and operatic forms. His comments on the absurdity of opera in an everyday context\textsuperscript{95} point to his treatment of text in this work as conversation or “textual declamation”.\textsuperscript{96}

One of the difficulties in presenting sung text is the context of a non-musical setting. Even though the subject of my opera was Captain Robert Scott’s Polar Expeditions of 1910-1912, it was hard to imagine members of the party breaking into song every time they felt the need to speak. Music did play an important part in the social and cultural life of expeditions, sledging songs for example could help concentration during intense physical labour.\textsuperscript{97} To have Seaman Evans sing about his frostbite and impending brain embolism seemed to me to be out of character.

The answer to these problems for much of the opera was to mimic aspects of popular song or folk melodies. Even though sections of the orchestration may have been at odds harmonically, a more traditional voice leading and melodic shapes were sought for the text. This would help convey a sense of simplicity found in popular or folksong of the day and could be just a step or two removed from a lilting style of speech. Occasionally I used percussive or spoken effects to bypass traditional singing but to convey the madness and destruction of Evans I was drawn to the sonorities that Lutosławski used in \textit{Le grand combat}.

\textsuperscript{95} Nikolska, 97. 
\textsuperscript{96} Kubicki, Homma, 2. 
In *Trois Poèmes*, Lutosławski was drawn to Michaux’s sense of alienation and the blurring of the line between external aspects of being. Michaux’s style of free verse, odd syntax and invented words is effectively portrayed in Lutosławski’s music and none more so than the music found in *Le Grand Combat*. His musical setting encompasses the creation of sound images compatible with Michaux’s poetic images rather than providing for a clearly enunciated reading of every word of the text in performance.

The most important concern for the setting of Scene 8 was the description of Seaman Evans’ madness and ultimate death. The abstract sound world of *Le grand Combat* as a model not just for the methods of aleatoric counterpoint but also a similar sound world seemed to fit the drama of this scene.

*Fig. 4.5* McIntyre *Fire on the Snow (Short score)* Scene 8

![Opening chordal and melodic structure for Scene 8 of *Fire on the Snow*.](image)

*Fig. 4.5* shows the opening chordal and melodic structure for Scene 8 of *Fire on the Snow*. Just as Lutosławski sought to create fluid textures in *Le Grand Combat* to evoke the text, I too sought a timbre that was fluid, ceaselessly moving and almost no sustained notes without some form of movement. It was important that this scene conveys Evans’ psychological state and a texture of rapid melodic shapes and rhythmic chattering would be necessary.

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98 Stucky, 142.
99 Stucky, 142.
In fig. 4.6 the first chord does not start the scene but rather a reiteration of the closing chord of Scene 7. The subsequent glissando in the strings accompanied by the microtonal sliding in the brass set the mood for the scene as the Narrator intones the fate of Seaman Evans much like the choruses found in the Greek tragedies of Sophocles.

Over the next couple of minutes constant movement is precipitated by the constant shift between pitches in the next chord of the scene (fig. 4.7).

These chords shown in red are altered through transpositions found in the next cells of melodic material, notably the movement to tritones from the original pitches in the second. (fig. 4.8)
As the strings, percussion and celeste continue their oscillation of the chord, the brass then pick up the pitches from the melodic strings to help propel the music forward. The construction of this scene was to be a very gradual build up of tension followed by a calamitous release of energy. The first nine pages of score in this scene deal with the unfolding realisation that something very wrong is happening to Evans. The resultant crescendo over ninety-seconds of Db⁴ in the brass and the chattering in the strings serves as a transformative vehicle where the listener departs the company of the party and enters the mind of Evans. The effect of Evans mind slowly taking precedence and drowning out the voices of Scott and the others was explored through continuously repetitious cells of aleatoric counterpoint in the strings that follow a chord pattern of minute intervallic changes. The cumulative point for this scene is rehearsal cue 108 where the violins, violas and pianist take up percussion instruments to add to the main percussionist’s battery.

At this point in the scene I made the deliberate point of using many sounds, timbres and techniques found in *Le Grand Combat*. In *fig.4.4* vocal shapes take on a roughly shouted glissando pattern that can be found at cue 33 on page 27 of the *Trois Poemes* vocal score.¹⁰⁰

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¹⁰⁰ Lutosławski’s *Trois Poèmes d’Henri Michaux* utilises both an orchestral and vocal score as it requires two conductors to present the work.
As shown in fig.4.4, the patterns ascend compared with the descending pattern in Lutosławski’s score, the effect dispersed over a number of singers with slight variations in rhythmic execution produces a very similar result. As my focus is on the dialogue patterns of Evans, the variations in the vocal parts for the rest of the cast only vary slightly as the textures in the orchestra would be the main accompaniment. At least 35-40 seconds of music is presented pitch free as vocal shouting and percussion form the only texture until the brass entry at Cue 111.
The brass and low strings explore the intervals of minor 2nds, major 7ths, minor 9ths (all contained in interval class 1)\(^{101}\) while the higher strings and piano gradually drop out of the percussive textures by cue 113. The twelve intervals from unison to major seventh may be reduced to seven interval classes, numbered 0 to 6. Intervals of a minor second and major seventh are both representatives of interval class 1.\(^{102}\) The texture sees a return to the repetitive chattering staccato shapes from before the explosive build up, again occurring in the higher strings and piano. Battery percussion is briefly abandoned by cue 114 only to return momentarily at cue 115 to be then replaced by the timpani at cue 116. (fig.4.11)

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\(^{101}\) Stucky, 241.
\(^{102}\) Stucky, 241.
At cue 116 the silencing of the voices creates a coda to the chaos of the inside of Evans’ mind by a transition to the next scene with an instrumental interlude. The texture of this interlude suggests a grotesque fanfare in the brass accompanied by the familiar chattering figure in the strings, this time borne out completely rather than small cells of repetition. The activity in the strings also served to draw attention to the impending blizzard in the narrative that would be the focus of Scene 9. The crashing chords in the brass, piano, low strings and timpani depict the sudden return to the reality of their situation and surroundings as we leave the confines of
Evans’ madness. The introduction of a $\frac{3}{4}$ tempo after cue 117 synchronises the chords as we crash headlong into the next scene.

In Lutosławski’s case the climax of *Le Grand Combat* uses loud punctuated chords with the vocals exclaiming “fouille” (dig) but with silence forming the main contrast to the chords at fig.4.12.

The climax in Scene 8 uses the same type of chordal percussive brass strikes and retains the blizzard activity in the strings. To achieve the flurry of string texture I was after in standard notation would have required me to use many different subdivisions simultaneously to bypass a metered sound. Even the repetitive semiquavers written in a metrical context would sound very measured but removing the barlines and instructing the strings to play *ad libitum* helps achieve a rhythmic complexity. Also the low strings started an *ad libitum* repeat bar at

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104 This marking in Lutosławski’s scores is reserved for any music that is required to be played in an un-synchronised manner in an ensemble.
cue 113 and the higher strings started one at cue 114. These repeat bars are combined with a wavy line which denotes a ‘staggered’ repeat. When such a bar is to be repeated, the next cue given requires the players to play up to the end of the repeated section and then pass onto the next section or come to a complete stop.\textsuperscript{105} The effect is that when instruments repeating these staggered bars eventually stop or move onto to new material, the changes occur at different times. Depending on how far through the repeat was when the cue was given or the length of the cue, the changes in textures or harmonic material between sections is blurred as opposed to the simultaneously change in the score.\textsuperscript{106}

Pizzicato figures starting in the cellos and double bass and climbing up through the violas and violins at cue 105 are shown as note heads without stems or beaming. This is also a technique utilised by Lutoslawski in the \textit{Trois Poèmes}, the rapidity of the rhythmic attacks is determined by relative spacing so the polyphonic texture remains clear.\textsuperscript{107} A need for complex rhythmic subdivision is circumvented and the chance interaction of these parts creates a bubbling pizzicato accompaniment to the trumpet glissandi and Evans’ increasingly manic dialogue.

This technique often occurs in the vocal parts, allowing for a more natural scansion for the text rhythm, again circumventing the need for rhythms that could result in an unnatural or clumsy delivery. This technique makes the music easier for the singer to learn.

\textsuperscript{106} Almost every score of Lutoslawski’s since his Symphony No.2 presents in the performance notes this instruction: “In the ad libitum sections all the rhythmic values are approximate. In consequence, the placing of notes one above the other in the score does not necessarily mean that they are played simultaneously.”
\textsuperscript{107} Charles Bodman Rae, \textit{The Music of Lutoslawski} (London: Omnibus, 1994), 87.
Chapter Five: Aleatory outcomes in Performance

Toward the end of 2009 my first piece using a completely aleatoric style was *Constellationism II*.108 This piece was written for flute, clarinet, piano, violin and cello and contained no actual measure or bars but instead sections designated by a rehearsal cue with specified metronome markings. Some of these cues constituted repeated measures and some were long sections of music without measures. The piece was chosen for the Asian Composers’ League Festival 2012 and received its premiere in Tel Aviv in October 2012. Attendance of the Festival was not possible, so communication or discussion of the score with the performers did not occur. Sometime during December 2012 an email with a link to the recording of the piece was sent and the recording revealed quite a successful performance and execution of the score. It seemed the adequate explanations in the preface to the score had fulfilled their criteria and the performers were able to obtain the required information to perform the score as intended. Although as this was the first piece I wrote using a completely limited-aleatoric score it was recorded near the end of my candidature.

The undertaking to write an opera with heavy use of limited-aleatoric notation required a planning and development of techniques in stages. Starting with techniques used by Lutosławski that had been proven to work, I had not used these techniques on such a large scale up to this point. Certain parameters had to be decided upon in the initial stages of development of the opera. Specific criteria for the use of aleatory also had to be established. A simple flowchart was used to deal with these questions of where aleatory was needed. A positive result would require an exploration into the simplest way to present the notation? All

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108 see DVD Folder “Other works.”
of these considerations would be needed to help vocalists (usually untrained in many aspects of contemporary techniques) against the backdrop of an orchestra.

Whilst on working on the libretto for the opera, *Fire on the Snow*, a series of verses were found that seemed not to fit the more expositional and narrative dialogue that I was searching for. Instead these verses were quite poetic and suggestive of a dreamlike quality. This seemed like a good opportunity to develop a model in which to test some methods of aleatory for a larger ensemble, and be able to use these verses in a companion piece that could be performed separately to the opera. At the same time an opportunity arose to write a piece to be work-shopped by the Tasmanian Symphony Orchestra in 2010 and so *The Ice Barrier* for Baritone and Orchestra was written. The workshop had certain limits and restrictions it was of course not possible to write a piece for symphony orchestra completely aleatorically. It was necessary to utilise the aleatory as a textural or orchestrational device as a backdrop to accompanying musical dialogue in a traditional metered structure. Initially the piece was not chosen for that year but instead was selected for performance in 2011.

By then a performance of a chamber arrangement of *The Ice Barrier* had already been successfully tested. Arranged for baritone, flute, violin and piano this smaller version allowed me to write a longer piece that could explore more examples of limited-aleatory. The original orchestral version takes examples of recitative and uses the elasticity of such sections to use orchestral textures in *ad libitum*. Despite the relatively few sections in the score containing these techniques, it was still necessary at rehearsals to take time to explain these techniques to the musicians. As orchestral rehearsal time is expensive, one of the tutors for the workshop suggested that it might have been better to write these passages traditionally as not to waste

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109 Pieces submitted for the workshop could only be a maximum of eight minutes.
110 Referring from previous chapters to Lutosławski’s marking for sections to be played asynchronously.
rehearsal time. He also said that of the repeated sections “repeat boxes always sound like repeat boxes.”¹¹¹I think this also demonstrates the distrust that some composers and musicians display towards limited-aleatoric notation and its relatively small representation in new works. The other tutor at the workshop however said that they did not believe the use of the aleatory was unnecessary and actually found the result to be orchestrationally effective. They also went on to say that they could not have imagined the passage being able to be written any other way, which validated for me the use of such notation.

In *The Ice Barrier*, most of the aleatory is reserved for accompanying figures to the vocal part; small sections of aleatory were used in the vocals to help with scansion in the sung text. To avoid occasional clumsy rhythms, I also removed the stems and beams in some passages from certain notes.¹¹² This helps the singer enter at the correct point in the score but allows the delivery of the rhythm to conform more naturally to the words. This especially helped in sections where a more rhythmic-like speech was required, much like Sprechstimme. The largest section to use aleatory in the piece comes at cue 8¹¹³ where the entire wind, brass and percussion sections of the orchestra engage in a large mass of sound, which was to represent a blizzard of snow and ice. Originally at cue 8, the strings were scored with rapid semiquaver passages but upon rehearsal these passages could not be heard over the rest of the orchestra. The removal of these sections allowed clarity into the wind and brass writing, which further strengthened the close of the piece. The inclusion of a whistled note cluster from the woodwind section was an acknowledgement to Penderecki and was later used in the opening scene of *Fire on the Snow*. One of the initial ideas behind the genesis of *The Ice Barrier* was

¹¹¹ *The Ice Barrier* Cue 3, bar 45, pg.12 of Composition Folio
¹¹² *The Ice Barrier* Cue 5, bar 142, pg.22 of Composition Folio
¹¹³ *The Ice Barrier* Cue 8, bar 191, pg.30 of Composition Folio
a setting of some of the text from Penderecki’s *St.Luke’s Passion*.\textsuperscript{114} This score had been considered when formulating ideas and models on limited-aleatory but ultimately Lutosławski was chosen for the clarity and consistency of his ideas and notation.

In the chamber version of *The Ice Barrier* a long introduction and coda were written entirely in limited-aleatory that explored a narrow band of intervals for the instruments and voice. The smaller ensemble allowed for greater flexibility in rehearsals. The original plan was to write *The Ice Barrier* and have it work shopped in the early stages of opera writing. As the orchestral version *The Ice Barrier* was not work shopped until a full year after originally intended, much more of the opera had been written than planned. The opportunity to present a concert of chamber works presented an opportunity for a reduction and rearrangement of *The Ice Barrier* and its performance occurred a full four months before the original orchestral version.

It also became possible to hear portions of the opera during initial stages of writing, especially after being asked to include a piece in a concert for the Conservatorium of Music’s string ensemble, *Jan Sedvika Camerata* string orchestra for early 2011. This seemed the perfect opportunity to try out some of the notational models developed whilst working on *Fire on the Snow*. Whilst working on the libretto, work began on the structure of the opera and the first scene to be written was Scene seven. In the design, this scene serves as a pivotal central scene as both the start of Act Two and the aftermath of the discovery in scene six of the lost race to the Pole. *The Fire on the Snow Suite*\textsuperscript{115} featured a re-orchestration of scenes one, two and seven as they were so far the only fully finished scenes when I considered

\textsuperscript{114} Krzysztof Penderecki *Passio et Mors Domini Nostri Iesu Christi Secundam Lucam* (Kraków: Edition Moeck, 1967), 64.

\textsuperscript{115} pg.37 of Composition Folio
writing the string piece. The percussion and keyboard parts were assigned to four extra violins added to the original opera string section. It was Lutosławski’s Preludes and Fugue for 13 Solo strings (1970-2) that helped me settle on the orchestration for the suite. Whilst his piece uses seven violins, three violas, two cellos and a double bass; I settled on the use of eight violins and two violas instead. Rehearsal time for this piece was quite generous, fours hours in total but this was to be the first time most of the student players had ever seen this type of notation. Despite this hurdle, just a brief explanation of the techniques in the first rehearsal proved sufficient to convey the ideas and reduce the stress often associated with new and difficult techniques. Some of these techniques took more than a rehearsal to fully grasp as well, particularly the techniques involving staggered repetitions. Fermatas can often be a mixture of sustaining a note until cued or sustaining only for the length of a bow at a specific dynamic.\(^\text{116}\) Even though the score and part indicates the difference between these two approaches, it still relies on the performer to remember and execute such information. At times lapses in concentration can hinder scores with unfamiliar notation. Whilst on the one hand, the use of limited-aleatoric notation is designed to circumvent difficult rhythmic subdivisions, the unusual and often unfamiliar repeated bars, straight or wavy lines, or the general lack of meter of measures can confuse a player more so. The different line attached to repeat bars\(^\text{117}\) also took some getting used to but proved very effective once the technique was fully understood.

An unexpected result from these rehearsals was the execution of difficult passages that functioned in traditional measures and meter. Metered passages in the Fire on the Snow Suite\(^\text{118}\) proved more difficult to successfully coordinate than the unfamiliar aleatory. Despite the

\(^{116}\) Fire on the Snow Suite Cue 10, pg.46 of Composition Folio
\(^{117}\) Fire on the Snow Suite Cue 40, pg.66 of Composition Folio
\(^{118}\) Fire on the Snow Suite Cue 42, pg.68 of Composition Folio
piece using nothing more complicated than a quintuplet, these sections required more 
rehearsal time to synchronise. Perhaps ironically, sections of asynchronicity sounded more 
synchronous and successful than their metered opposites. The successful notation of the 
aleatory helped to achieve an exact result I was after, despite the inherent but intended 
amount of serendipity. That is to say, in writing a section of limited-aleatory, I allowed a 
margin of asynchronicity in the design to interpret the outcome. Sections with strict meter by 
their very nature of being in strict time can either sound together or not in the ensemble. Yet 
the sections of asynchronicity, if successfully notated, can sound together even though they 
are built upon being deliberately asynchronous. This trend would continue through the course 
of each rehearsal for not only the string suite but also most of the other pieces in my folio.

Due to time and financial constraints it was only possible to present an abridged version of 
the opera, *Fire on the Snow* as a concert version. The limited budget for the project reduced 
the overall rehearsal time down to three calls including the final rehearsal with the vocalists. 
The removal of scenes two to four and seven meant that an overall picture of the opera could 
be presented without detracting from the dramatic shape and narrative. As in the previous 
year, the recording of the *Fire on the Snow Suite* provided me with a recording of scenes two 
and seven, albeit in a slightly different form. Presenting in a concert version also enabled the 
singers to learn a difficult part more quickly, indeed a last minute change to the cast occurred 
six weeks before the rehearsals and the ability to use the score in the performance ensured a 
new singer could be easily found.

With only six hours of rehearsal time for the orchestra before the singers joined in, it was 
crucial that the ideas in the score could be communicated clearly and precisely. At least 
seventy-five percent of the two hundred and ten pages of score utilize some form of limited-
aleatory. These techniques ranged from fermatas of varying duration, repeated cells with both sudden stop and staggered change variants.\textsuperscript{119} Also included were large volumes of score that started with a conductor’s downbeat and was re-synchronised after several minutes. It was these sections that proved to be most successful in terms of the accidental nature of coordination over a long span of time. The minute variation in the player’s individual speeds multiplies with the passage of time; the variance by the end of a section can be many beats out of time. The fermatas, which characteristically cap these sections as catch up points often, last much longer than first realised. These unexpected results add further complexity to the music.

Orchestras help train string players to learn to play as an ensemble, bowings are synchronised and sonorities are matched. Encouraging string players to think as soloists rather than an ensemble in passages of limited-aleatory can be a challenge. In particular, scene five\textsuperscript{120} presents a rolling triplet figure, starting in the cellos and moving upwards through the violas and violins. First readings of this section resulted in measured, metrical triplets across the entire string section rather than the limited-aleatoric notation. It took several attempts to introduce the elasticity in the triplets that the cue called for, despite the tendency for the string players to synchronise and bow together. Once this section was played correctly the aleatory helped to give an added complexity to the triplet figure against the vocal parts that were more rhythmically driven. This cue also relies on the metrical time of the singers set against the out of step rolling in the strings to give a lilt to the accompaniment. I was after the sense of a memory transcribed through the suggestion of folksong. The out of kilter triplets represent the distortion of time through memory, something which we all experience and also features as an important motivic device throughout the opera. In this section and many others,

\textsuperscript{119} See chp.3
\textsuperscript{120} \textit{Fire on the Snow} Cue 48, pg.156 of Composition Folio
it was helpful to have the vocal parts conducted whilst the orchestral backdrop could be more elastic in time. This technique helped to drive the lyrics forward. There was a constant balance between aleatoric sections that functioned as recitative, that is a chordal backdrop against a rubato passage for the vocals, and aleatory used as an orchestrational device behind long passages of vocal exposition. To help the exposition, stronger rhythmic shapes were required in the vocal parts. Only conducting the singers against an aleatoric background in the orchestra helped maintain the sense of complexity in the orchestration. When preparing parts for aleatoric music, providing a metrical or written out cue with sections of a fermata or a repeat helped the player understand and better time their entries.

The question I constantly asked myself during the writing process, do I need to use aleatory? Often answers to this question were not so straightforward. Many musical cues required a solution that was a mixture between metrical and aleatoric techniques. As a musical form that is ultimately about the delivery of text, opera requires a balance between the singers and the orchestration.

The Composing in the Wilderness Workshop in Denali National Park, Alaska gave me an opportunity to write a piece for a quartet in a number of days. The workshop involved hiking through areas of wilderness in the Denali National Park during a four-day period. We were only allowed to use pencil and manuscript paper to formulate ideas for a composition. Upon arriving back to Fairbanks University we had just one night to write, typeset and prepare parts for rehearsals the next day. The performance would follow two days later, this relatively short amount of time in which to write the piece necessitated its final form. I had already decided to write the piece using exclusively limited-aleatory and it also would serve as another companion piece to Fire on the Snow.
Upon reaching the Pole, Captain Scott had discovered Norwegian explorer Roald Amundsen had beaten him. Amundsen had left him a tent, supplies, equipment and a number of letters, had beaten him. One of these letters was addressed to King Håkon of Norway detailing his successful expedition and an accompanying letter asking Scott to deliver it on his behalf. Scott of course perished and the letter was much delayed. Strong motivic ideas would be carried over from the opera, in particular the repeated seven-note figure that represented the *march* motive\(^{121}\). I also would use a variation on the *death* motive that opens scene one with the slow string glissandi. The time restraint in the writing impacted on the amount of thematic ideas I could present but also allowed for repetition and subsequent variations. To further save time, parts would not be necessary for the performers, I would utilise a score from which could be easily performed from by the quartet. This helped with coordination between cues and sections and also allowed parts with an arbitrary timespan or repetitions to exactly see the movement of their part against the rest of the ensemble. This proved valuable in rehearsals, as there were only two hours to prepare the piece. This was the first score employing limited-aleatory that the performers had ever encountered, therefore the layout and clarity were crucial to a successful performance of the work.

The central idea for the String Quartet No.3 was to have it function as a second part to the Alaskan piece, *A Letter to the King of Norway*. This Part 2 would further expand on the ideas presented in the previous work, into a much longer and more structurally complex piece. I was struck by the relatively simple presentation of Lutosławski’s *String Quartet* despite its highly complex sound world. The performance notes in his piece describe how the leader of the Lasalle Quartet (for whom it was written) requested a full score to fully realize the work when there in fact wasn’t one. Lutosławski’s deliberately constructed the piece out of parts;

\(^{121}\) This was expanded out to a ten-note figure. See Cue 2, pg.338 of Composition Folio
“…You may ask me why I attach such great importance to the non-existence of a score of my piece. The answer is quite simple: if I did write a normal score, superimposing the parts mechanically, it would be false, misleading, and it would represent a different work. This would suggest e.g. that the notes placed on the same vertical line should be always played at the same moment, which is contrary to my intention. Further, it would prevent each performer from being free enough in [their] rubatos, ritenutos, accelerandos, pauses and above all in [their] own tempos. That would deprive the piece of its “mobile” character which is one of its most important features…” 122

Despite this, Lutosławski did construct and supply a score on the proviso it was for reference only and not performance. It was my initial intention to also construct a string quartet that was made up of parts only, a piece that consisted of a quartet “tutti” for the duration of the piece. In the end, the former idea of parts only was dropped but the score was to be carefully controlled in terms of its presentation.

Practicalities can arise from all sorts of factors and the availability of Silo String Quartet, the group for whom I write my string quartets, played into the presentation of the score. As a quartet, Silo performs quite extensively, often booking several months in advance. Often personnel from the group may not be available from time to time with their own engagements. Also, as this work would be recorded in the studio as opposed to the recording of a live performance, costs associated with the recordings played into the score design. Their availability was for two standard rehearsal calls and the studio session. The decision to use a score as opposed to parts only was determined by these factors.

Another consideration in the score design was to use no measures or time signatures at all, despite the piece opening with unison quavers. These quavers eventually drift apart but until that occurs I experimented with ways to present the notes to the performers that would reflect this rare moment of synchronisation in a score that would be characterised by its absence. The decision was made to beam all parts across staves in the event of strict synchronisation, giving a visual indication both in the score and the parts. Parts also featured cues for each of the other three parts in these instances. This would further strengthen this musical gesture in the minds of the performers. The rest of the score functions much in the same way as Lutosławski’s quartet, the vertical alignment of the notes is not to be regarded in the performance and interpretation of the *ad libitum* nature of the score. The third movement is designed to play right through without a break, each player to start and then concentrate on finishing, only to re-synchronise at the end to mirror the opening of the piece. Feedback from members of the quartet included their satisfaction with the notation and design of this movement. It was because of the design that they were able to rehearse and execute the movement so quickly. The nature of the design of this movement in allowing the execution of each part without regard to any synchronisation both helped convey the rhythmic complexity and focused each performer on the accuracy of their part. As a result this movement could be recorded in a single take. The way the movement was written meant that it was only possible to play it all in one take, as there were no points for a synchronised re-entry. In total, three takes of the third movement were recorded with the last take being considered the best representation of the score. Minute differences and subtle variation in the first two takes resulted in three different interpretations, despite the parameters being essentially the same.

More often than not, ideal conditions for rehearsing, recording or performances do not always exist. Musicians can often be involved in more than one rehearsal or performance on any
endngiven day and the window to get together can be brief. Complicated or complex music, in some of these cases, can simply be shelved in order to present something that requires less attention to perform satisfactorily.

I found in all cases, my techniques of limited-aleatory successfully traversed limited rehearsal times and presented performances that conveyed the appropriate amount of complexity. Time spent at the beginning of rehearsals to explain adequately unfamiliar symbols and techniques in piece seemed time well spent in score preparation. It was not seen as time wasted that could have been put to better use as real rehearsal time. Again, in all cases, if the scores had of been written with more complex rhythmic subdivisions, the extra amount rehearsal gained by not needing to explain notation still would have not translated to equal proficiency or execution in performance. Quite simply an extra twenty minutes of rehearsal may not mean that the time would have solved issues of difficult and more complex notation.

As to the serendipitous nature of aleatoric outcomes, Lutosławski had this to say;

“The rhythmic structure developed by a collective ad libitum… is a far more complex texture than any polyrhythmic structure to be found in traditional music. One of the reasons for this is that there may be…accelerandos and rallentandos within each part. There are many other similar possibilities. All of them spring from the composer’s assumption that each of the performers will…play as though [they] were on [their] own…in this way the rhythmic structure acquires a distinctive suppleness not attainable otherwise.” 123

123 Lutosławski quoted in Bodman Rae, 77.
Chapter Six: Conclusion

The focus of my PhD work has been to resolve the issue of complicated rhythmic notation by using techniques of limited-aleatory based on the notational methods of Witold Lutosławski. In documenting the outcomes from this project it was necessary to provide an outline for the research and trajectory of my compositional practice.

Past compositions of mine focused quite specifically on the interaction of melodic lines that relied on complicated rhythmic patterns. Whilst my rhythmic language may not have been as complex as composers like Brian Ferneyhough and others that champion the music of the “new complexity” 124, it was nonetheless structurally dense and presented enough of a challenge to performers and ensembles as to render it extremely difficult to perform. An encounter with the score of Lutosławski’s Symphony No.3 during my Masters Degree helped me realise that rhythmic and textural complexity may not have to be sacrificed at the expense of performability. The ideas Lutosławski’s notated not only allowed for great complexity but encouraged it through a careful manipulation of techniques of limited-aleatory. This complexity expresses that notion that musical components can be greater than the sum of their parts by allowing serendipity and a sense of unsynchronized interaction between a group of musicians.

Use of non-traditional and non-synchronous elements has helped me to create new works that function as explorations into the possibilities of interactive chance, thereby distorting traditionally notated rhythms within ensembles. The techniques of limited-aleatory still allow

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for structural organisation of pitch and time but it is the micro details that furnish the piece with its own distinctness. I was not interested in graphic scores that encouraged chance on such a vast level but aleatory that allows a piece to remain as a whole whilst the nuances of asynchronicity are at the micro level.

My initial forays into presenting works featuring techniques of limited-aleatory helped me overcome difficulties in presenting complex rhythm (The Ice Barrier and Fire on the Snow Suite for Strings) and were helpful in preparation for rehearsals. It could be said one of the main tradeoffs of using notation of limited-aleatory is the to need learn a new set of musical symbols. It has been pointed out to me that the unfamiliarity of repeated bars, wavy or straight lines or the absence of barlines takes up time in explanation and impacts into rehearsal time. Despite this, I found that the sections in my main works of the folio, in particular Fire on the Snow that dealt with strict rhythm, the familiar metrical notation sounded less accomplished. Large sections displaying limited-aleatory could not only be rehearsed in a shorter amount of time but they sounded more effective and confident. It seemed that the musicians than tricky rhythms would absorb unfamiliar symbols much quicker. This was a result that I was wishing for but did not expect to be validated in such a short amount of time, or with as much enthusiasm by the musicians themselves.

Further to this, the idea came up during the rehearsal and recording sessions with Silo String Quartet for the String Quartet No.3 that it was possible to formulate the idea of a new performance practice based on contemporary music techniques that have a historical connection to instrumental performance practices during the Baroque and Classical periods. Part of the notational make up of the piece did reflect a cumulative or collective experience of an ensembles journey through my works written specifically for them. In essence the
ensemble based on their knowledge of my past work could develop upon musical shorthand and yet there should still be enough information for a satisfying performance from another group when the need arises. These ideas will be explored beyond this composition in two new quartets, the fourth and fifth, which I again will write for Silo String Quartet.

Perhaps the most interesting result of my use of limited-aleatory would be the reorganisation of pitch material in my compositions. My earliest works in serialism not only used a complicated rhythmic language but treated pitch in melodic and polyphonic sequences. In studying Lutosławski’s scores and research into others work on his harmonic organization I saw his techniques of limited-aleatory as being merely the by-product of a highly organised approach to chordal serialism. Lutosławski’s use of twelve-note chords was arranged by intervallic relationships. Most of Lutosławski’s works from the early 1970s featured exclusive use of twelve-note chords. The aleatory was merely a way for these chords to sustain themselves over time. With the removal of traditional concepts of rhythmic meter and pulse, sections for Lutosławski became points in time with long durations as opposed to bars and beats. His chords functioned as exercises in aleatoric polyphony.

Though my chords are different in construction from Lutosławski, I found adopting the idea of aleatoric counterpoint helped me sustain an interest and helped me to slow down my music. For my own ears I sometimes find that ‘serial’ works can be too busy, changing before the listener can grasp the musical argument. The shift from polyphonic melodies to chords helped my music shift down gears and whilst it still may sound contemporary and new to many listeners, the embracing of repetition both in the long sustaining of a chord or through the use of repetitive rhythmic cells has helped me smooth over some of the astringency my music has often been associated.
Through adopting the models of aleatory that Lutosławski developed in his late period, I was very consciously retaining my own musical identity and not merely writing works that sounded like Lutosławski copies. Whilst I availed myself of many his techniques into rhythmic aleatory, I think my own harmonic language helped me keep a distance and retain an individual sound.

In the early stages of my research some conversations with musicians revealed their unfamiliarity or open hostility for limited-aleatory. One musician described these techniques as being “old-hat”, a stylistic artifact leftover from the 1960s. Use and exploration of these techniques have showed me that a very sophisticated level of complexity can be achieved without having to compromise. I have received far more successful and immediate results since using aleatoric notation In the year of the one hundredth anniversary of Lutosławski’s birth, the importance of his work is being revealed to a growing concert going audience. I also hope that his methods and aleatoric practices could equally find a footing both compositional applications and a continuance in the practices adopted by new composers going further into this century.
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**Recordings**


**Scores**


Folio of Compositions

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July, 2013
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The Ice Barrier

for Baritone Solo and Orchestra

Words by Douglas Stewart

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Instrumentation

Piccolo
Flute
Oboe
Cor Anglais
Clarinet in A
Bass Clarinet in Bb
Bassoon
Contrabassoon

4 Horns in F
2 Trumpets in C
2 Tenor Trombones
Bass Trombone
Tuba

Timpani

Percussion (1 players) – Xylophone, Tam tam, Temple blocks, claves
Bass drum, Crotales, Tomtoms, Large suspended cymbal, glockenspiel

Harp
Baritone Solo
Violin 1
Violin 2
Viola
Cello
Bass

duration 8 minutes
The Ice Barrier - Program Notes

While I was editing and adapting the radio play Fire on the Snow for my opera of the same name, I came across some verse, which appeared to stand out from the rest of the text. The subject deals with the ill-fated Antarctic expedition of Robert Falcon Scott during 1910-12, his being beaten to the pole by the Norwegian, Amundsen and the subsequent death of his expedition party.

The bulk of the play is narrative and deals with the last few days of the expedition but the stanza beginning with “This journey is one man’s dream” suggested a different treatment and mood from the music of the opera. I thought about a separate companion piece to the opera and wrote a version for baritone and orchestra. The piece is meant to be a dream like state; the explorer facing harsh and desperate conditions imagines his redemption through his heroic actions. Ultimately the environment and intense cold claims his resolve and he yields to snow and ice, passing into another dream.

Performance notes

**Ad. Lib. phrase** – Phrases within the square brackets are to be played approximately in the given tempo with a deliberate attempt to be un-synchronised with the conducted tempo. (If this marking is given for a string section i.e. Vln.1 ALL players should play independently from each other)

**Ad lib.**

**Ad. Lib. section** – The conductor gives a downbeat for this section and ALL players must play approximately in the previous or given tempo with a deliberate attempt to be un-synchronised (for a string section ALL players should play independently from each other). When the individual players parts are finished, wait for the next cue either on a paused note or rest as indicated.

**Semibreves with a fermata in an Ad.Lib. Section** (either notes or rests) are not necessarily four beats. They are to be treated as a fermata that waits for the next cue.
This journey is one man's dream. And the man is burdened. And the man is Scott.
The others do what they're bid - den - bearing their share of the
But cannot tell what it means.

E-ver who un-deer-stood least, was the first to
Die, a man
Lost in a nightmare, lost
In the fog of another man’s dream.
"On-ly the drea-mer is liv-ing
And now when grief is gone"
3 a tempo

E. Hn.

A Cl.

Bsn.

Timp.

Brtne.

Vln. 1

Vln. 2

Vla.

Vc.

D.B.

Calm as an albatross

All strings ad lib.

pizz.

mp - mf

mp - mf

mp - mf

mp - mf

mp - mf
Or dives at the shoal of ice in a flash.
like a flock of gulls, And the heart leaps!
Like a boulder down to the sea,
Just as he planned in his dream.
Synchronised co-ordination between string parts is to be avoided. Repeat given notes until conductors cue at b144. Duration of each semi-breve note for each player should equate to a full bow at $\text{ppp}$. At conductor’s cue finish a full bow of the note arrived at. The desired effect is a gradual drifting out of time leading to an independent dropping out of notes.
Duration of note is to last one full breath at ppp. Please imperceptibly reiterate note until end of marked line.

Who ruled men’s minds or bodies
Who had no will of
When players part is finished, wait for the conductor at the given fermata.
picc., fl., ob., eh., cl. to whistle any note with the mouth and slowly glissando downwards. Note should be sustained until the baritone has finished his narration, then whistle-notes should gradually stop.

strings to sustain until after whistles stop

[spoken] That a man lies dead on the snow and another man’s steps are slowing and the barren plain has no end and the iron wind is blowing...
Fire on the Snow Suite

for 13 solo strings
Instrumentation

8 Violins

2 Violas

2 Cellos

Double Bass

duration 12 minutes
Performance notes

Phrases within the repeats are to be played approximately in the given tempo with a deliberate attempt to be unsynchronised. If there is a change at the next cue, play up to the end of the repeat and either stop or continue as the part dictates.

Phrases within the repeats are to be played approximately in the given tempo with a deliberate attempt to be unsynchronised. Stop immediately when indicated.

1 Ad lib.

Ad. Lib. section – All Ad.Lib. cues are marked with a downwards arrow. The conductor gives a downbeat for this section and ALL players must play approximately in the previous or given tempo with a deliberate attempt to be unsynchronised (for a string section ALL players should play independently from each other). When the individual players parts are finished, wait for the next cue either on a paused note or rest as indicated.

Semibreves with a fermata in an Ad.Lib. Section (either notes or rests) are not necessarily four beats. They are to be treated as a fermata that waits for the next cue.

Bowing – aside from bowing indications in the score, any note duration that needs to be re-articulated should be done so at the marked dynamic.
The image contains a musical score with handwritten annotations. The score is for multiple instrumental groups, including strings and bass. The score is marked with dynamic symbols such as 'pp', 'pizz.', 'mf', 'rapid', 'ff', and others. There are indications of timing cues, with measures marked '5 ca 9'' and '6 ca 4''. The score includes indications for sul G and a weaker dynamic marking 'ppp'. The page number is 43.
each string player’s note to last one
full bow at **pp** before playing the next note

**ac**
G.P.
2 secs.
Vln.1
Vln.2
Vln.3
Vln.4
Vln.5
Vln.6
Vln.7
Vln.8
Vla.1
Vla.2
Vc.1
Vc.2
D.B.

ca 13" until next cue 15
Vln.1
Vln.2
Vln.3
Vln.4
Vln.5
Vln.6
Vln.7
Vln.8
Vla.1
Vla.2
Vc.1
Vc.2
D.B.

mf
f

15°

˙-
˙−

w
b
œ

mf
f
metronome markings for vc. and basses does not concern these pauses

Vln.1

Vln.3

Vln.5

Vln.7

Vla.1

Vla.2

Vc.1+2

D.B.
ca 10°
each fermata note to last one full bow at **ppp** then wait for next cue *arco*
each fermata note to last
one full bow at ppp then wait for next cue
arco sul pont.
Instrumentation

Horn in F
2 Trumpets in C
Tenor Trombone
Bass Trombone

Percussion 1 - Suspended Cymbals (3), Tam Tam, Chimes, Vibraphone, Timpani, Tuned Gongs (6) (see perf. notes), Bass Drum, Tom Toms (5), Tenor Drum, Sizzle Cymbal, Crotales,
Whip, Cowbells, Woodblocks (3), Xylophone,

Keyboards/Percussion 2 (1 Player) – Piano, Celeste, Harmonium

Violin 1/Percussion 3 - Whip
Violin 2/Percussion 4 - Claves
Violin 3/Percussion 5 - Tambourine
Violin 4/Percussion 6 – Temple Block
Viola 1/Percussion 7 - Ratchet
Viola 2/Percussion 8 - Triangle
Cello 1
Cello 2
Double Bass

The Players

The Narrator
Robert Falcon Scott/Vocal 1 - Tenor
Lawrence Edward Grace (Titus) Oates “The Soldier” /Vocal 2 - Tenor
Edward Adrian Wilson/Vocal 3 – Baritone
Henry Robertson Bowers “Birdie” /Vocal 4 – Baritone
Edgar Evans/Vocal 5 - Bass

Duration approx. 90 minutes
We witness five courageous men, led by one of the most distinctive figures in Antarctic exploration, Captain Robert Falcon Scott, whose driving ambition to be the first to reach the geographical South Pole in the cause of British science and industry, would inevitably lead them all to their terrible deaths in the bitter and unrelenting environment of the great ice continent.

The libretto’s narrative consists of a number of movements or episodes, each punctuated by the Announcer who foreshadows and comments on the action much as a Greek chorus might do. The narrative no longer takes the linear path it does in the play text but now acts like memory where form is malleable, fluid and changeable. Each episode sits inside the moving poem of the whole work and behaves in the way that memories do; triggered sensorially and viscerally by association. The opera opens with Scott, trapped in his tent; freezing to death as his comrades have before him. Scott is writing his final diary entry; alone with his memories. Outside the tent, a blizzard batters and rips into his last minutes of life. It’s in these opening moments that the audience is engaged in Scott’s dream and the action of the opera. First, to the frigid nightmare at the pole and then back in time through their extraordinary struggle for survival and concluding with the warm irony of the initial high emotions have anticipated success.

The Ice Barrier (2010), written for solo baritone and Orchestra has been inserted as the Prelude to the opera for the number of thematic similarities and dramatically to help set up the mood for the opening scene. Initially it was conceived as a separate companion piece to the opera as the prose written by Stewart seemed so different to the shape of the emerging libretto. Placed at the beginning of the opera offers a satisfying introduction into the mind of Scott.

Background

The narrative concerns the dash to the Pole by the tragically flawed British Antarctic Expedition 1910 - 13. On arriving at the Pole, the intrepid five, find they have been beaten there, only a matter of weeks before, by Roald Amundsen and his Norwegian team. Desperately disappointed and exhausted with having to man-haul their sledges, they become trapped by the unpredictable weather. The way the men met their fate struck a chord with the English-speaking world. Despite it being the most incompetent failure in the history of Antarctic exploration, the plight of the heroic five became a symbol of resolve, and an inspiration for those who followed. One hundred years later this tragic event has taken on mythic proportion and continues to resonate in the collective memory.
Performance notes

Ad lib cue. These cues are generally given with a downbeat. In these sections non-synchronisation is encouraged. In these sections ALL rhythmic values are approximate.

Left hand cue affects only selected players

These cues are generally in strict time unless an ad lib part is specified

rest with duration in seconds
rest of indeterminate length
note of indeterminate length

Play between repeats until cued then play up until end of repeat and either continue or stop

Play between repeats until cued then stop

Quarter-tones

Vocal notes

Ad lib. rhythms

“We’ve all been watching him.

Spoken

soft note loud note lowest possible note shouted note highest possible note

Please be calm, there’s no thing to do but

Whisper tone - whispered/sung at pitch.

sung speech (sprechstimme)

Phonetics (see IPA listing)

Ideally the Narrator should be a Baritone capable of singing The Ice Barrier or alternately it should be sung Wilson.
Brass

After the Prelude, the brass are tacet from Scenes 1 through 4. They are to be positioned offstage up until Scene 5. The Trumpet 1 entry is played from offstage, followed by the rest of the brass ensemble. The French Horn and Trombones are to quietly take seats with the rest of the orchestra prior to cue 45. The Trumpets to follow likewise just after cue 48. Their entries are to be as soon as they are seated as not to fall too far behind. The brass remain seated with the orchestra for the rest of the opera despite the tacet in Scene 7.

Piano

The pianist will need to play a small percussion setup in Scene 8. This is a small tom tom setup of 3 drums.

\[
\text{\includegraphics{drum.png}}
\]

It is not important for the playing to be precise, more so to represent the shapes in the notation. Basic percussion skills would be needed to play this part.

The pianist also doubles on celeste and organ. The organ parts could also be played on a full organ (where one is available) or electronic keyboard depending on the quality of the Organ sound.

Strings

The Violins and Violas need to double on a percussion toy during parts of Scene 8. Like the percussion part for the pianist, this part has been simplified into a repeating pattern and requires basic percussive techniques.

- Violin 1/Percussion 3 - Whip
- Violin 2/Percussion 4 - Claves
- Violin 3/Percussion 5 - Tambourine
- Violin 4/Percussion 6 - Temple Block
- Viola 1/Percussion 7 - Rachet
- Viola 2/Percussion 8 - Triangle
Prelude - The Ice Barrier

4/4 \( \text{\( \frac{\text{d}}{\text{s}} \) } = 64 \)

Ad lib.

A tempo

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Words by Douglas Stewart
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This journey is one man’s dream. And it is one man’s burden. And the man is Scott.
Evens who understood least, was the first to
tell what it means.

Bar.

Vln.1+2

Vln.3+4

Vla.1+2

Vc.1+2

Pno.

Trpt.1

Trpt.2

Hn.

Trbn.

B.Trbn.

D.B.

Perc.

pp

senza.sord.

mf

con sord.

pp

senza.sord.
Lost in a night mare, lost in the fog of another man's dream.
Only the dreamer is living...

And now when grief is gone...

Onlv the dreamer is living...

And now when grief is gone...
rit. A tempo

Is the hour of peace and release,  
For the dream is clear again.
A tempo

Bar 45

Perc.

All strings ad lib.

Timpani

Timp.1

Hn.

Vln.1+2

Vln.3+4

Vla.1+2

Vc.1+2

D.B.

Calm as an albatross

pizz.

mp - mf

pizz.

mp - mf

pizz.

mp - mf

pizz.

mp - mf

3 A tempo
Or dives at the shoal of ice
In a flash

String 1+2

String 1

Vln.3

Vla.1

Vc.1

Perc.
thes - glei long snow - y sigh
The stream of their move - ment, lur - ching!

sigh

move - ment, lur - ching!
Like a boulder down to the sea,
just as he planned in his dream.
Synchronised co-ordination between string parts is to be avoided. Duration of each semi-breve note for each player should equate to a full bow at \textit{ppp}. At conductor’s cue finish a full bow of the note arrived at. The desired effect is a gradual drifting out of time leading to an independent dropping out of notes.
Who ruled men's minds or bodies
Who had no will of
their own... Nothing the future bodies or the past has done...
can hurt The hour when the dreamer walks A live in the dream of his
Act. 1 - Scene 1 - Death

Three shapes are revealed in sleeping bags half buried in snow. The air is still and cold, it could be a day or a week after their deaths. This could be November 1912 when the bodies were discovered.
The world is spun between two giant hands of ice,
And on any peak of living won
From hardest hours, the blizzards hiss,
And the reward set for the blindest faith

[quietly]

each string player’s note to last
one full bow at ppp then wait for next cue

\( \text{Sus.Cym.} \)
In the fixed needle directing us,
Is to reach the Pole; and the Pole is death.

109
Narr: I say what I have to say: "Death",
        The word that drops in the room like rain

Making the live coals gasp
    for breath and blackening
slowly among the brain. When
a man is sitting up late, alone.
I say what I have to:
"Death in the South;
Flesh that is snow;
Ice that is bone."
I see what I have to see: Scott, Oates, Evans, Wilson, Bowers,

each string player’s note to last
one full bow at pp then wait for next cue
Whose bodies lie, too cold to rot,

Where the aurora leaps and towers
Colouring the Antarctic sky with terror,

Like their own memorial marbles,
like their own reflections trapped in a mirror.
each string player’s note to last one
full bow at \( pp \) before playing the next note

\* at this cue strings to play up to the end of the repeat.
The effect will be of finishing at different times.
Scene 2 - Before the End

These cues concern only the strings who are not to follow the conducted tempo.

G.P.
2 secs.

Wilson

The ice was dazzling white and the sea was blue
A very dark blue, and all the sailors were singing

Vla.1

Vla.2

Vc.1

Vc.2

D.B.
I rem-em-bar the wint-er the com-rade-ship in the hut. But it fas-ed out We were cold. Those long dark days When
One night I walked to the cliffs a-lone, and the moon was pure and burning on those
no bo dy spoke and we felt like dreams and shad-ows
froz-en spires and crags,
so that they leapt like flames.
The ice was blaz-ing.

And the hut, when I came back, was a red is-land.

The ice was blaz-ing.

And the hut, when I came back, was a red is-land.
ship at sea, a fire of human beings. Warm and secure. But that was years ago.

I remember the march to the Pole bagging.
to be barely imperceptible, behind the string texture

sled-ges Dogs, pon-ies, the 
hap-py cav-al-cade, The long 
swing-ing eas-ys march-es, the feel-ing of 
songs and bann-ers.
I rem-ber the black flag that told us about A-mund-sen. That fat-al day.

ca 18" until next cue
We should not have cared
despite the increase in dynamics,
the orchestra still needs to be under the vocals
But we did, and the pole was ghosts and ruins, and the snow
on our mouths
Was ash-ash-ash-
And E-vans crum-bled a-way,
And the sol-di-er af-ter him.
How am I just-i-fied,
Scott

Wilson, how am I justified for Oates and Evans, and Bow-ers... and you?

All of us chose to do it, Our own will brought us, our death on the
ice was foreseen by each of us. acc. - ep. - ted. Let your mind be at peace.
Vocal 3

We dreamed, we so nearly triumphed, we were defeated. As everyone man in some great or humble way. The end.

Vocals to wait until they have heard their first note in the strings

strings should arrive at fig.24 unsynchronised. Do not cue fig.25 until all strings have reached fermata and crescendoed.

Vocals to wait until they have heard their first note in the strings

strings should arrive at fig.24 unsynchronised. Do not cue fig.25 until all strings have reached fermata and crescendoed.
And whatever death is, our children. I'll tell you, a thing burning and perfect.
I am tired. Death is very near me.

Scott: can't re-mem-ber now; I am tired. Death is very near me. Wilson, There is some-thing else, some-thing to

Vocal 1

Vocal 4: lit-ed

Vocal 5

Vn.1+2

Vn.3+4

Vla.1+2

Vc.1

Vc.2

D.B.
let ring

Depress the white keys and lock the sostenuto pedal for the duration of this cue

Narrator

Two dead men; and a dying man remembering

The burning snow, the crags towering like flame.

do with me. Moon light on ice. Wilson Wilson

Scott

Vocal 1

Vocal 4

Vocal 5

Vln.1+2

Vln.3+4

Vla.1+2

Vc.1

Vc.2

D.B.
Scene 3 - The Final March

In the beginning was the Word, before the word was silence. Man was born of a word
And he dies back to silence. It is quiet in the white South.
In the loneliest green place Bird calls to bird, The cricket chirps in the grass, The rustling leaf is a word. It is quieter in the South.

Narrator: The living thing is the word and the thing dead is silence.

These men of their own accord move away into silence, Their skis soft on the snow.
Good-bye to England, first; good-bye to New Zealand.
I thought that was saying good-bye to the world,
When we swung away from the wharf and lost the faces
And the gulls went home. I felt lonely that first night.
But there's never an end of saying good-bye to people,
And to places you've come to like. Good-bye to the ship,
Good-bye to the hut—it was snug there in winter.
Good-bye to the poor ponies; Atkinson and Cherry.
What a long way it's been, and now the last of it.

I said good-bye to my wife.
The confused farewells over, The words whirling, lost,
Over the ice like starlings In a dusk bright with frost.

The five men in harness, The groups drawing apart,
The heavy sledge moving: The step light, and the heart.
We're a long way from England now. At last...
I can start to think clearly, free from ensnaring ice. There's the five of us and these miles of ice and the Pole; A simple
Worrying's over, planning's over, there's nothing to do but march. They've even given us sunshine.

matter of a journey, worrying's over, planning's over, there's nothing to do but march. They've even given us sunshine.
Oates

wish they'd given us a surface... This is like trying to march on top of a glass-house. He looks like a cow in a glass house.
I feel like one; You'll hear me bell-oo-ing soon!

Lost your calf?

It's a good job there's sun

Chimes and piano to remain at previous speed
We can't rely on that for ever. But it gives us a flying start, and I haven't a doubt we shall make it.

Oates

I wish the
Vln.1

Vln.2

Vln.3

Vc.1

Vc.2

D.B.

Scott:

[to the pole]

[said] It wants to crawl to the pole.

sledge would decide to take up av-i-a-tion
Scene 4 - Two Days out from Ninety Degrees

Narr. - The surface breaking like glass, the snow slowing the sledge like waves of white iron.

[Vocalise alternate ‘s’ and ‘k’ only when the narrator makes a ‘k’ sound after an ‘s’ sound. Repeat these eight notes every time this occurs. When narrator finishes speaking wait until instructions at next cue]

Vocal 1

[Vocalise alternate ‘s’ and ‘k’ only when the narrator makes a ‘k’ sound after an ‘s’ sound. Repeat these six notes then return to sung pitch every time this occurs. When narrator finishes speaking hold pitch until next cue]

Vocal 2

[Vocalise alternate ‘s’ and ‘k’ only when the narrator makes a ‘k’ sound. Repeat these seven notes then return to sung pitch every time this occurs. When narrator finishes speaking hold pitch until next cue]

Vocal 3

[Vocalise alternate ‘s’ and ‘k’ only when the narrator makes a ‘k’ sound. Repeat these six notes then return to sung pitch every time this occurs. When narrator finishes speaking hold pitch until next cue]

Vocal 4

[Vocalise alternate ‘s’ and ‘k’ only when the narrator makes a ‘k’ sound. Repeat these four notes then return to sung pitch every time this occurs. When narrator finishes speaking hold pitch until next cue]

Vocal 5

* This tempo marking is only for percussion. Vocals are to enunciate their parts as rapidly as possible.
The wind like a wall of ice that has to be forced, broken for every inch of the way.

[Vocalise alternate 'w' and '^' after the narrator makes a 'w' sound. Repeat these eight notes every time this occurs. When narrator finishes speaking hold pitch until next cue]

[mf]

[w ' w ' w ' w ']

[Interrupt sung pitch to vocalise 'k' and '∂' only after the narrator makes a 'k' sound. Repeat these six notes then return to sung pitch every time this occurs. When narrator finishes speaking hold pitch until next cue]

[mf]

[ar k δ k δ k δ ar]

[Interrupt sung pitch to vocalise 't' and 'f' only after the narrator makes a 't' sound. Repeat these seven notes then return to sung pitch every time this occurs. When narrator finishes speaking hold pitch until next cue]

[mf]

[ar t f f t f t ar]

[Interrupt sung pitch to vocalise 'f' and 'b' only after the narrator makes a 'f' sound. Repeat these six notes then return to sung pitch every time this occurs. When narrator finishes speaking hold pitch until next cue]

[mf]

[ar f b f b f b ar]

[Interrupt sung pitch to vocalise 'b' and '´' only after the narrator makes a 'b' sound. Repeat these four then return to sung pitch every time this occurs. When narrator finishes speaking hold pitch until next cue]

[mf]

[ar b ' b ' ar]
Hour weighing on hour, time piling like snow until their hearts are buried.

[Narrator makes a 'aΩ' sound. Repeat these eight notes then return to sung pitch every time this occurs. When narrator finishes speaking hold pitch until next cue]

[Vocal 1 makes a 't' sound. Repeat these six notes then return to sung pitch every time this occurs. When narrator finishes speaking hold pitch until next cue]

[Vocal 2 makes a 'p' sound. Repeat these seven notes then return to sung pitch every time this occurs. When narrator finishes speaking hold pitch until next cue]

[Vocal 3 makes an 's' sound. Repeat these six notes every time this occurs. When narrator finishes speaking wait until instructions at next cue]

[Vocal 4 makes a 'h' sound. Repeat these four then return to sung pitch every time this occurs. When narrator finishes speaking hold pitch until next cue]
The sledge heavy to haul, the limbs aching, the sweat freezing on bearded faces.

Interrupt sung pitch to vocalise 'h' only after the narrator makes an 'h' sound. Repeat these eight notes then return to the second sung pitch every time this occurs. When narrator finishes speaking hold pitch until next cue.

Interrupt sung pitch to vocalise 't' only after the narrator makes a 't' sound. Repeat these six notes then return to the second sung pitch every time this occurs. When narrator finishes speaking hold pitch until next cue.

Interrupt sung pitch to vocalise 's' only after the narrator makes an 's' sound. Repeat these seven notes then return to the second sung pitch every time this occurs. When narrator finishes speaking hold pitch until next cue.

Interrupt sung pitch to vocalise 'f' only after the narrator makes an 'f' sound. Repeat these six notes then return to the second sung pitch every time this occurs. When narrator finishes speaking hold pitch until next cue.

Interrupt sung pitch to vocalise 'b' only after the narrator makes a 'b' sound. Repeat these four notes then return to the second sung pitch every time this occurs. When narrator finishes speaking hold pitch until next cue.

Blow air through instrument, no tone. This needs to be loud enough to be heard from offstage. Length of fermata should vary between players to be of a different duration. Repeat until cue 37.
Till mind is dulled to stone and body is creaking wood with a sap of ice in the veins.

[Interrupt sung pitch to vocalise these six notes immediately after the narrator starts speaking then hold second pitch until end of cue]

[Interrupt sung pitch to vocalise these five notes immediately after the narrator starts speaking then hold second pitch until end of cue]

[Interrupt sung pitch to vocalise these four notes immediately after the narrator starts speaking then hold second pitch until end of cue]
Narr.  Grimly, not talking much, then making camp. Evans, the giant worker, has cut his hand but still attends to the sledges, pitches the tent, the strongest man of the party.

[Vocals 1-5 to whisper text behind Narrator. Try not to start at the same time but stagger entries]

Vocal 1  Grimly, not talking much, then making camp. Evans, the giant worker, has cut his hand but still attends to the sledges, pitches the tent, the strongest man of the party.

Vocal 2  Grimly, not talking much, then making camp. Evans, the giant worker, has cut his hand but still attends to the sledges, pitches the tent, the strongest man of the party.

Vocal 3  Grimly, not talking much, then making camp. Evans, the giant worker, has cut his hand but still attends to the sledges, pitches the tent, the strongest man of the party.

Vocal 4  Grimly, not talking much, then making camp. Evans, the giant worker, has cut his hand but still attends to the sledges, pitches the tent, the strongest man of the party.

Vocal 5  Grimly, not talking much, then making camp. Evans, the giant worker, has cut his hand but still attends to the sledges, pitches the tent, the strongest man of the party.
Now we're so close I confess I feel uneasy Can you believe it, Wilson? In two more marches The Pole is ours! I never believed it possible.

I've waited, thinking that something must go wrong. But tonight I could shout and sing. It's certain we shall make it.
The only thing is Amundsen. Won’t it be nice to get to the Pole and find that he has found a track through?

It begins to be exciting. I wish I was there. Oh, forget it! What does it matter which of us gets there first?

That’s what I reckon, blast him!

String fermata to last length of one full bow at ppp then proceed. No cresc.
his whiskers and beseech us to it.

Let's see that hand of yours, E-vans that's more important than troubling yourself about who is first at the Pole. As if we were school-boys. There's honor and glory enough.
If that's what you want, in marching as far as this.

G.P. 6 secs.
Vocal and violin to start cue 39 together. Violin will probably reach fermata before the voice so should wait until the vocal proceeds to next cue.

It's not the hon-our and glo-ry it's a pri-va-ate thing. It would make it worth-while for me, pri-va-ly per-son-al-ly, To be the first at the Pole. I sup-pose

we all feel the same, We want to do it be-caus-e we set out to do it, And by God we will. But it's no use our-sing Au-ri-mond-aun They're en-ti-tled to their am-bi-tions,

the same as we are_ If the worst com-es to the worst we'll have to bear it. It's no use whi-ning. The ver-y thought of a race spoils it for me; it's vul-gar, not what I ho-ped for. It must be that which made me feel un-ea-sy

Vln.1 is waiting at fermata

Vln.1 to wait on this fermata for the voice to pass to next cue, then to proceed also
The feeling that now, when our hands are on success, we planned so carefully, endured so much...
Scene 5 - Something Black on the Snow

It's fine to be marching; strange that courage should droop at night like flowers and green things, as if we were quite at the mercy

Vln.1: Vln.1 come back to stage

Vln.2

Vln.3

Vln.4

Vla.1

Vla.2

Vc.1

Vc.2

D.B.

Slightly slower than conducted tempo
of natural forces. I remember black birds when it was dusk in the country. The last songs, and then the twittering, then silence;
Dusk and sleep were a law they never quelled. It would be less unnerving if night meant darkness here, One could be sad, but...
last night was desperate; there is no relief when you can’t go down in the dark.
I wonder how different we are from normal men? This terrible cold could change a man’s nature, and perhaps it has. Perhaps we’ve all gone mad...
It's a plea - sing speculation. Seriously, though, I saw last winter how the climate changed us.

* Players to stagger re-entries of these notes as to sustain a continuous pause
We hardly spoke once that long silver twilight had really begun to permeate our bodies.
You mean to say we’re barmy?

Of course you are, and so am I, hauling a sledge to the Pole when I might be home where there’s food and fires and women. You can certify me potty.
My God! I'm crazy, too! My eyes are playing tricks. I thought for a moment I saw a cairn in front.

[Trpt. should play about mf - f but be far away off stage to sound distant and not over power the voice]
What's that? A cairn?

Hn. and Trbns. to quietly take seats with the rest of the orchestra

Scott

Trp. 1

Vln. 1

Vln. 2

Vln. 3

Vln. 4

Vla. 1

Vla. 2

Vc. 1

Vc. 2

D.B.

Bass drum
Vln.1-4
Vla.1+2
Vc.1+2
D.B.

Offstage Trp.

mf

each vln. to accel independently of each other

Vc.+bass to accell BUT remain strictly synchronise together

mf
I had a fee-ling, A-mund-sen would beat us.

Look there! I can still see it!

Bass drum

Bowers

It’s on-ly a saa-tru-gi!

Wilson

Sure?

Trpt. 1

Ditmose Bass

Trpt. 2

Hit.

Trbn.

B Trbn.

Vln. 1-4

Vla. 1-2

Vc. 1+2

Db.

I can’t see an-y-thing.

Tpt. to quietly take seats

`with the rest of the orchestra`
I feel like a criminal. Startling you all like that.

I can't see anything either. Look.
care-fully, Bowers. If this is Amundsen..."
The Norskies will beat us.

You can't see anything! It's not a cairn, and if it is, it doesn't.

I believe I can see it. What will we do if it is?
It's nothing I shouldn't have spoken. I apologize. The winds heaped up the snow a bit more than usual. That's all it can be.
And haul, men, haul; What e-ver it is we'll find out soon e-nough, And if it's the worst I want to get it
[whispered] There's something there I can see. I have to tell you.
[whispered] There's something black in the snow.

What do you mean? What's black in the snow?
What can you see?

There's something there I can see. I have to tell you.
There's something black in the snow.
A speck be damned. You've got the wind up. Bin - dic. You've got a

Just some-thing black that's all. A speck that's black
speck in your eye, that's the trou-ble. And the speck is A-mund-sen.

Damn it, Oates! Do you think I'm trying to fool you.
Do you think I'd be likely to speak if I wasn't certain? Sorry. This isn't a time to quarrel. I'm sorry. That I wouldn't like to tear my eyes out, there's something black away a head to the right. Look hard.

I'm looking. But all I can see is the bloody snow.
Blood-y's the word. Blood-y with pon-ies killed. Blood-y with all the waste of what we've done!
[spoken]
Yes, I can see it. I don’t like the look of it.

[spoken]
There aren’t any rocks.

[spoken]
There aren’t any birds, curse you.

[spoken]
Couldn’t it be a rock?

[spoken]
Then a bird or something.
Scene 6 - Beaten to the Pole

Now you shall know the truth,  
No matter how bleak, how black;  
If the white track leads to death  
Heroes will not turn back.

It is better to climb the ridge  
And stare on chasms of air,  
Or stroke from the sea-cliff's edge  
The sea's dark strangling hair.

Than to run like a rat for cover  
When truth comes storming by;  
Better than huddling over  
The sinking coals of a lie.

To climb to the barren peak  
Where the shape of truth must show  
And no man, strong or weak,  
Can hide his head in the snow.
Yes, it’s a flag.

I'm afraid it looks like a flag.
Oh, blast the luck. And blast the Norwegians. Damn them.
What if they're still about? How strange it would be a miracle, really, to meet them here at the Pole. It's exciting to think.
that other men have fought as we have, right to the end of the world. Can you imagine meeting other human beings on this lonely, terrible, end of the world:
endless desert of ice?

I'd like to bash their heads in!

The black flag of pirates.
They'll be gone by now. The tracks are old. They're gone. There won't be any meeting to please the historians—Stanley and Livingstone, Scott and Amundsen. They're gone, they and their dogs. We'll only see their tracks.
We'll see their mark at the Pole, there's nothing worse. I suppose we are going on, but what's the use, what the hell's the use of the course we're going on.
We'll see it through.

It's not your fault. We came of our own accord. You must not blame yourself, whatever happens.

ex-pec-ta-tion now?
Scott

I blame myself for everything that happens. I am the leader. I take the responsibility. And I'm grateful, more grateful than I can say.

It's not your fault!

You don't turn on me like wolves for what I've done. It's a place to make wolves of any men but you. A place for disappointment, a
place for ha-tred and human blood on the ice.

Mere-ly e-nough to make wild beasts of us, without this flag like a—
A black crow waiting for the end, Mocking our disaster A-mind-sen must have found an easy track

Mocking our disaster A-mind-sen must have found an easy track

Mocking our disaster A-mind-sen must have found an easy track

Mocking our disaster A-mind-sen must have found an easy track

Mocking our disaster A-mind-sen must have found an easy track

Mocking our disaster A-mind-sen must have found an easy track
It must be a nightmare in

It's a long way home for us.

A long way! Eight hundred miles.

It's a long way home for us.
I've dreamt of this moment
No mark of men.
Yet this is still the moment
When my life reaches the
winter.

No mark of men
No footprint scar ring the snow.

Dream was different
No man the snow
Scott Oates
Wilson
Bowers
Evans

Trpt. 1
Trpt. 2
Hn.
Trbn.
B.Trbn.

Vin. 1+2
Vin. 3+4
Vla. 1+2
Vc. 1+2
D.B.

Peak: I chose to climb And I am happy. We've reached the Pole. I won't be robbed of a...
metronome marking for pno., vc. and basses does not concern these pauses
distances between these arrow cues to be approx. 5" unless otherwise indicated
vibe. and pno. parts to continue at $\approx 60$

Vln.1

Vln.2

Vln.3

Vln.4

Vla.1

Vla.2

Vc.1

Vc.2

D.B.
ca 13" until next cue
They turn their backs on the Pole,  
They turn their backs on a dream,  
They're coming down, now.

The five men crouch in their traces like beats of burden again,  
The sledge is heavy to haul, and the hope of triumph gone;  
They stumble among the crevasses; and combers of violent ice  
Crash at the back of the brain where the still white spindrift lies.

* proceed to next cue once all strings have finished
They pass Amundsen’s flag. They pass the black flag now.

G.P. 6 secs.

* the length of these cues should not shorter than the narrator’s speech
All right, drop out. We'll go a-head. Catch up as
quick-ly as you can. Watch out for frost bite; you must n’t get it a-gain.
Scene 8 - Death on the Snow

Poor Seaman Evans, brave man,
Big bodied, useful man.
A big man, Seaman Evans,
Knew the deep water,
Knew ropes, the ways of tools,
Handy about the camp.

Knew the ways of gulls and women,
The white curve out of reach;
Knew fishes and fighting sailors.

Poor Seaman Evans, big man.
Stumbling the frozen chaos
On the long way home from the Pole.
I believe he's down. Look! I'm coming. He's on his hands and knees, he's down on the ice. Look!

B. Trbn.

Evan is a long time coming.
A big man, Seaman Evans. Down on his hands and knees, crawling about like a child.

Come on, we'll go to him. See him! He's crawling.
E - vars! What in the name of God's the mat-ter? Stand up, man, can't you stand up? I'll help you.

Stand up, man; can't you stand up? I'll help you.
Your hands!
Why did you take your gloves off?
They're his jam

That look in his eyes.
Fire, ice, jewels.
Watch out he doesn't attack you. Captain! Only mad men

Leave me alone

 mf
Surely you know us. E — vete? We're your friends. The man's insane.

Leave me a lone.

Low brass entries to be simultaneous but players should vary length of notes to be deliberately non-synchronise.
Scott: We only want to help you. Tell us what happened.

Evan: When you touch the snow you get your fingers black. Look at my fingers black. Look at my fingers black.

Scott: friends...
black fingers. Funny, aren't they? fun fun fun fun fun fun fun fun fun

What were you doing, down on your hands and knees?
I don’t re-mem-ber, I might have fain-ted, I re-mem-ber.

Catch him, quick-ly! He’s faint-ing.

We’ll have to car-ry him.
A strong man, Seaman Evans,
A big man, slumped on the sledge,
Sleeping like a child.

I've seen this coming and been afraid of it; Each day since he took that fall I've watched him failing,
His poor hands rotting with frostbite, his face all eaten, As if there were rats in the ice. The worst thing
Was to see his reason going, see him losing heart, his movements slowing and his speech becoming wooden. Each day we’ve seen him nearer this collapse, And it’s made my heart bleed, watching him.

We’ve all been watching him.

And all been sorry. But what’s going to happen now?
Is there any chance for him, Wilson, will he come round?

It's hard to say. He's still unconscious. Perhaps he'll rally for a moment or two towards the end.

Wilson

Is there any chance for him, Wilson, will he come round?

It's hard to say. He's still unconscious. Perhaps he'll rally for a moment or two towards the end.

Oblaki

The end! Surely you don't mean that? Men don't die just like that, go out with a flick of the finger.

The end! Surely you don't mean that? Men don't die just like that, go out with a flick of the finger.
He’s exhausted now, but surely a spell for a day...

Wilson: He has concussion. He won’t be coming home. I doubt he’ll wake at all!
Scott

Can nothing be done?

Bowers: We can't let him slip away like this. We can't sit here and watch him die and do nothing.

It's a cold thing, to lose a friend like this.
Please be calm, please be calm, please be calm, there's nothing to do but wait!

Please be calm, please be calm, please be calm, there's nothing to do but wait!

Please be calm, please be calm, please be calm, there's nothing to do but wait!

Please be calm, please be calm, please be calm, there's nothing to do but wait!

LEAVE ME A LONE!!
Scott

Narr.

Oates

Wilson

Bowers

Evans

I've sat by other death beds and know this feeling of utter helplessness and grief and anger...
When a moan is drowning you throw him a rope, you launch a boat, you dive to help him: relief in action!
Narrator and Vocals 1-4 to shout previous passages at random, getting faster and more intense until Cue 116!
Narr. Scott Oates Wilson Bowers Evans

Trpt.1

Hn.

Tbn.

B.Tbn.

Vlns. + Vlas. to change back to their instruments.

Vc.1+2

D.B.

return to Pno. when repeat is reached.
ALL VOCALS TO STOP!
Scene 9 - The Blizzard

All strings to re-bow imperceptibly

It's on-ly the Sol-dier talk-ing in his sleep, don't wake him. He needs all the sleep he can get, poor fell-ow.

You, too.

Scott: Who spoke? Is some-one in-s ide?

Oates: Snow-ing.

Wilson: P

Who spoke? Is some-one in-side?

Snow-ing.

You, too.
But it's nearly time for the march; a few more minutes. If only we had more fuel, a little more food. But that's the least of our troubles. Oates is finished, you know. You don't need telling. His feet...
are done, he's ex-hausted, the cold has got him! It's cruel to keep him march-ing but what can we do?

He will march till he drops. The Sol-lier is made that way.

What way am I made?
you'll nev-er beat the bliz-ards with a cri-p-le on your hands. Tell me, Wil-son, I want to know and I'm not a-fraid to face it. Is there a chance for me? I know there isn't.

Wilson

soldier, I don't know.

Tell me, Wil-son, I want to know and I'm not a-fraid to face it. Is there a chance for me? I know there isn't.

Wilson
There's always a chance.

You must keep on marching.

I'll keep on marching, yes. As long as I can.

G.P.
6 secs.
Ad. Lib.

Durations in seconds are approximate. Do not play synchronised!
[spoken] Captain, I told you yesterday I could face it. That wasn't true; I was asking for comfort. I can bear any physical agony, but it can't be worse than this. I can't and won't have you dying for me and dying for nothing. The only chance for you and we all know it, is for you to march away and leave me here. My body's rotting with cold...
No, Soldier, no. We can't do it.

If you get home in safety that will be something, I've done in the world something you can tell my people. If you stay and all of us die...

you brand me a coward and a murderer too. I won't have your blood on my hands. Give me at least the satisfaction of dying decently, not like a coward clenching your hands, afraid...
You’re ask-ing what’s not poss-i-ble. I for-bid you to speak of it a-gain. Come on, and march. There’s one thing, though. Wil-son, you see how it

is, the Sol-dier’s done and who knows who’ll be next, you, Bow-ers, my-self. the thing is wait-ing to strike at each of us now we’re all played out; Give us your o-plum. O-pen your kit now and we’ll share the tab-lets.
The time may come when suffering merely stupid, to prolong it, useless.

You're asking a hard thing of me, against my principles.

There's a certain code a doctor lines to! Suicide! Doesn't come in to it. And that's what opium means!

When you have no choice, where is suicide is choosing.

We make our own law here.
the harm in mak-ing a hard thing eas-ily?

G.P.
3 secs.
after vc./bass stops

44

4 60

Motor on - slow vibrato

Pno.

Perc.

Wilson

Suppose I had no op-i-um

Vibe.

ppp

con sord.

sul pont.

ppp

con sord.

sul pont.

ppp

con sord.

sul pont.

ppp

con sord.

sul pont.

ppp

con sord.

sul pont.

ppp

con sord.

sul pont.

ppp

con sord.

sul pont.

ppp

con sord.

sul pont.

ppp

con sord.

sul pont.

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con sord.

sul pont.

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con sord.

sul pont.

ppp

con sord.

sul pont.

ppp

con sord.

sul pont.

ppp

con sord.

sul pont.

ppp

con sord.

sul pont.
You'd fight to the end; and surely that is better. Having the means of death so easy to use, We might be tempted to defeat and weakness, spoil all that done.
Scott

But I, as leader, won't ask any man to suffer needlessly—of body or mind.

Wilson

I wish you'd leave this thing to me. To see that no one suffers. It'll make it my business to care for...
I can't give you the means to destroy life. You may die first. Give us the stuff or we'll take it.

We may be split in two. You may die first.
Let him give us the tab-lets!

Wilson:

I'm not judg-ing.

I am think-ing of how I'll be judged.

Bowers:

Wil-son, you've no right to sit in judg-ment on men in this hell of ices.
You've made your protest. The responsibility's mine. I make it an order. Give us the tablets, now. I'll take them myself from your...
Scott

I think you're wrong! You're asking too much of men...

To live in pain when there's ease - y re-l ease in their hands.
Yes it’s better to fight. Endurance may have a meaning for men in the snow.

We may never use this opium. I’m sure I won’t none of us here is weak. But I’ll tell you again, terrible things may happen, and we’re human, human. Give us the opium.
Scene 10 - Oates Shall Leave
Stumbling, Cries, Crashing, Scrambling to his feet
And stumbling on, and crashing, and rushing on,
And his mind, thrashing to avoid the knowledge of his fate, rambling, slamming across the ice like a stone, and then like a stone arrinking in the pool of remembering yesterday and tomorrow that seem already gone. As dark as yesterday.

Dialis in the pool of remembering. And clambering out, and like some water monster lumbering ahead through leaves and lanes and lovers. Memories, memories, memories, faces like moons, lost in a night that groans of beasts and rivers.

Falling. Dials. Reeling. Falling in to-morrow, recalling yesterday and suddenly finding to-day when somnolence look at him with eyes of sorrow.

And the mind hosts like a pellucid thought of dying, curious, cold. Then black, shrinking of water, leeking of water, breaking, rocking with sea.

Dialis, walking on ice, walking in the white exaltation of death. What are they saying, moans, ever? Nothing that matters. Whiteness. Above the choasms of to-morrow and yesterday the hour towers from the peaks of storms to brightness.
What will distinguish today from tomorrow? The whiter anguish, the darker sorrow?
What hope in waking no more walking, from nothing to nothing? And stopping breathing.
try to be slightly out of time
with string pizz. but not too much

I had hoped not to wake this morn. It’s cold. A blizzard? We must march if we can.

pizzicatos to more or less play one after the other
I'm glad there's a blizzard. The sunlight here's too cruel, lighting the ice.

Vl.2, vln.4, vla.2, vc.2, bass to play each note one full bow length at pp
and everything

When it's grey and snowy it makes me think of home.

I suppose because of December.
Oates Trpt. 1  Trpt. 2  Hn.  Trbn.  B.Trbn.  Vln. 1  Vln. 2  Vln. 3  Vln. 4  Vla. 1  Vla. 2  Vc. 1  Vc. 2  D.B.  Perc.  Pno.

and the fires.

and the fires.  I see my mother quite clearly lighting the sticks, stooping, as over the garden

do crescendo for brass, remain at ppp

all strings to play each note one full bow length at pp
in the summer. Colours and flowers came out of her hands, There were good days in the regiment, in the winter, Hard brisk days and - - -
wine at night and the horses steam ing and buck ing on frost y morn ings. It's good to have lived.
G.P.
5 secs.
after orchestra stops

all strings to play note
one full bow length at pp

"Living is over for me"
"We'll make it yet."
Wilson

Wait till the doc-tor tells you. Soon-the-ly the 'ly more miles and we'll be at One Ton Camp. Cherry and the dogs will be there, and we'll haul you home.

B. Trbn.

Don't! Don't, Wil-li-son. You on-ly make it har-der for me and for

Vi./1-2

B. Trbn.

Wilson

lay-back on the sled and watch-ing the scene-ry like a prince.
Nobody move, don't move. I am just going outside. I may be some time...

[spoken]

All of us.
Scene 11 - Approaching the End

Narr.  
Oates has walked to his death and is dying now; they are silent for a while. They let him go. In grief and shame they let him go. Oates walked out to the storm, out to the flame of wind and snow where he burns for them. Then they remember how close is safety.

Fifteen miles to the depot now, the hope of rescue, the certainty of food; fifteen miles, only fifteen miles...
They saw their dream topple and crash like a wave and snap itself on the bitter shore of the Pole; when Oates walked out to the storm. They remember his face. They remember his form, struggling and stumbling. It is hard to believe he is dead.
Four miles staggered, four miles more. Eleven to go. And a blizzard blowing. The shriek of snow and three men lying cold in the tent. They are rocks, locked in the cold, slowly borne on the glacier of their wills, on a long journey, solemn and meaningless.
There is nothing to be done.

We must wait till the storm passes.

I can't wait here to starve.
can't eat the bliz zard, Bir die.

And you'll nev-er find any-th-ing else in a storm like this. The de-pot might as well be in Chin-a.

To-mor-roe you must march there.
You know I won't be coming, not with this leg.

But if we can make the deposit, bring back food.
He'll be able to march. Perhaps I should follow Oates; I'm the lame duck now. The leader is lagging. Birdie and I are no better. We're all of us crippled.
We can march to the depot, yes. But not much further. We'll get to the depot and back if we have to crawl. And then we'll starve. Food will work miracles.

I'm pinning my faith on Cherry.
Scott

out in a day. Two days it's last ed now. It can't go on for e-vert!

Wilson

has blown for a month

Bowers

shout- ing. But we're not drowned, not yet.

Narrator

Rollers of blizzard
Roar and break

In foam on the tent

The tide of the South

Perc.

Tempo

Timp.

Narrator

Timp.

Rolers of blizzard
Riar and brek.

In foam on the tent

The tide of the South

Vln.1+2

Vln.3+4

Vla.1+2

Vc.1+2

D.B.
Whites, tremendous.

Roars in the tent.

Roars in the ears.
It is evil, evil to lie awake in the night
And listen to the snow, more sinister than rain,
Pelt at the walls; evil to lie awake
And watch the mottled wet green walls of the tent
Crumple like water in the booming tide of the wind.
Bedraggled, sopping clothes, personal things are seaweed, froth, relics of another life, relics of a life hardly to remembered now by the men who, falling asleep, look like the drowned, lost beyond hope in the roaring tide of the storm.

Bedraggled, sopping clothes, personal things are seaweed, flotsam, relics of another life, relics of a life hardly to remembered now by the men who, falling asleep, look like the drowned, lost beyond hope in the roaring tide of the storm.
It had to stop today. It's still snowing.
it was dying out. There'd be a moment of calm and then it would shriek again!
While we are here there's a chance. Even to-mor-row we may be ab-le to march.
But a man doesn't do much marching once he is dead and any man who tackles that blizzard will die!
The Narrator needs to be heard over the orchestra. Amplification (e.g., Megaphone) may be necessary!

The man of action
Shall have satisfaction.
A leaf's release.
The leader's ambition.
Its consummation.
For death is keeping,
And calm escaping,
And the final shaping:
And death is nothing
But stopping breathing.
The men sleep, too tired any more for thinking,
Like stones that know nothing of green or blue or gold
Or black as the turning seasons cry their colours,
Hunger and cold are less to their grey silence
Than thorns to rocks, or the sunny river water.
To the dead pebbles as it strings and shives and dances.
Nan.

But sleep is suddenly haunted, worse than waking
With the white horror of snow on remembered fields
Devouring the grass, and remembered faces devouring.
And remembered bodies lost among shallow dust.
They wake again and find it is snowing still.
It will snow till the end of the world and snow in hell.
Scene 12 - Remembrance of setting sail from England
Scene 13 - Hope [Postlude]

- Vocal 5
- Vocal 2
- Narr.

1. Let voices only be conducted in strict time.

Orchestra to play ad lib.

Text:

- Holy Lamb of God
- God's England's lands pastures
- These cues are for the Timpans only!
New Zealand, that garden of Christchurch, how shrilly blue

The peals of the kahurangi shattered the barrier
And the Aroarora turned to music among the unknown
And the sky was split ten thousand years ago.

Vln.3  Vln.1
Vla.2  Vla.1
Narr.

Timp.  Perc.

Hn.

Tbn.

B.Tbn.

Vn.1  Vn.2

Vn.3  Vn.4

Va.1  Va.2

Vc.1  Vc.2

D.B.
I remember the ship, yes; shouting and the gulls,
Then the gals half so quietly4 shuffled back to the port,
Tremulous the thrills, etc., shuffling and the gals,
And in such solicitude no gals in shuffling.
But the sea deepening and breath so loud.
I remember those days in the past, life hurled in the air
Men's voices clear as tents as they sang.
Close as bibles...
fermata should only be long enough for players to synchronize for the last bar.

for the last bar
Homage to Lutosławski

for Solo Violin and Piano

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As I enter the final year of my Doctorate, I thought it would be prudent to write a piece as homage to the composer I have spent so many hours researching. I have been mainly focusing on Lutosławski’s use of aleatoric counterpoint but have found a unique language among his more metered works. In particular the Partita for Violin and Piano, I was drawn to the relatively simple lines and rhythms threading their way through the musical narrative. This piece uses the first movement of the Partita as a starting point whilst sharing some of the same characteristics. Its original intention is as a concert encore, displaying many flourishes and gestures Lutosławskian for the violinist. These sections contrast with pulseless veils of sound that explore rich timbres before returning to the final flourish.

Duration: approx. 5-6 minutes
31

Ad lib. slowly

323
A tempo
5  Ad lib. slowly

6  A tempo
A Letter to the King of Norway

Part 1

For French Horn, two Violins and Viola

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Instrumentation

French Horn in F

Violin 1

Violin 2

Viola

duration 6 minutes
Having spent the last two years writing an opera set in Antarctica dealing with the harsh conditions faced by Robert Falcon Scott’s tragic expedition exactly one hundred years ago, I leapt on the opportunity to come and visit the northern regions of the globe, especially the Denali Wilderness Park. Upon reaching the Pole, Scott had discovered Norwegian explorer, Roald Amundsen, who had left him a tent, supplies, equipment and a number of letters, had beaten him. One of these letters was addressed to King Hakon of Norway detailing his triumph and an accompanying letter asking Scott to deliver it on his behalf. Scott of course perished and the letter was delayed but I have always been fascinated by this concept. I wished to draw polar parallels between Scott and Amundsen’s life stories and the idea of a piece “from the North” would help with the answer to Scott’s Antarctic question. Norway lies on the 63N degree line as does Norway, parts of Antarctica at the antipodes of 63S. This narrative combined with the visual overload of Denali’s scenery helped conjure up a piece that encompasses the vast scale of these wildernesses and the almost insignificant scale of the human in such areas. We were also very fortunate to be accompanied by a scientist experienced in field recordings and his invaluable knowledge helped quantify the myriad of sounds that serve as “music” to nature. I found most fascinating the concept of space but also the niches of frequency that certain animals occupy. As species propagate and multiply and occupy new areas, they work with the current inhabitants to separate their calls and increase the tonal and harmonic spectrum of the space. This piece explores how these narrow fields can expand and form newer and richer variations in the music of the wilderness.
A Letter to the King of Norway
Part 1

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Ad Lib.

Horn in F

Violin 1

Violin 2

Viola
* At this cue strings play up to the repeat sign. As a result, they do not finish their phrases at the same time
A Letter to the King of Norway Part 1 is a piece for two violins, viola and French horn that I wrote in Denali National Park, Alaska. It was for the Composing in the Wilderness workshop run as part of the Fairbanks Summer Arts Festival in July 2012, mentored by Dr. Stephen Lias.

The initial ideas for this piece were formed by my interest in niche theory. That is the function of natural sounds and the way different animal and sounds co-exist in a natural habitat. It explains how different frequencies peculiar to groups of animals occupy a varied stratum of pitches as not to confuse other species by masking or disrupting their various mating, feeding or pack calls. New animals that move into an eco-system may share the same frequency as another animal but over time these sounds will diverge to occupy different frequencies in their audio spectrum, thus co-existing with one another rather than competing. Human made sounds however tend to disrupt and disturb many of the natural sounds of the wilderness. During the workshop it became apparent how noisy the wilderness could be and the pollution of human sounds sits in stark contrast. The piece explored the concept of a single tone diverging whilst also simulating bird, insect, wind and water sounds. The presence of a jet plane at the end of the piece and the post horn solo in the middle suggested the human impact on this environment.

The name of the piece also came directly out of my work on the opera, *Fire on the Snow* (2010-12) and the letter Roald Amundsen intended Captain Robert Scott to find in a tent left by Amundsen when he beat Scott to the South Pole in 1911. I remember being fascinated by what the letter meant to Scott and particularly as he lay dying in his tent some weeks later.

When I approached the String Quartet No.3 the intent was to write a companion piece to this first part. Many of the musical devices are similar though in different order. I wanted to convey the sense that part 1 (being a much shorter piece) was a glimpse, a fleeting glance at this letter that seemed to add to Scott’s humiliation. Part 2 was meant to a deeper study, a more in depth treatment of the same material, implying that Scott studied this letter feverishly as he whiled away the hours trapped in his tent, dying. Motives are explored in ways that diverge from Part 1 and the brief micro-tonality is expanded into a broader musical language.

The piece starts off in strict unison but gradually the instruments wander apart to explore their own paths only to meet again at the end and fade away.
The performance of this piece is meant to be non-synchronous. Strict time between the parts is unnecessary unless where otherwise indicated.
6. String Quartet No.3 (A Letter to the King of Norway Part 2)

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