Wearing tone coloured glasses:
a 'colour-first' compositional approach to the modern wind band

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Declaration

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university. To the best of the author's knowledge, it contains no material previously published or written by another person, except where due reference is made in the text.

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Abstract

In the nineteenth century, the English term tone colour, derived from the German word *klangfarbe*, entered musical vocabulary. Similarly, the French term *timbre*, referring to the same concept, 'quality of tone', circulated musical discussions. Throughout the twentieth century, composers explored various aspects of tone colour in their compositional approach, including Schoenberg's Klangfarbenmelodie (later developed extensively by Webern), Varèse's fascination with sound generation, Messiaen's drawn relationships between visual colours and harmonic clusters, and Boulez's concept of timbre as a musical language.

Wearing tone coloured glasses is an autoethnographical study that establishes the concept that a composer's creative approach is guided by an overarching fascination with instrumental tone colours from the outset of their creative process. The aims of this study are to establish a firm definition of a 'colour-first' composer, explore the 'colour-first' process through the creation of a varied portfolio of works for a singular instrumental medium (the wind band), and investigate the impact of formative musical development and career pathway on the development of compositional process and product.

To achieve these aims, the definition of a 'colour-first' composer, being one who inherently composes with tone colour from the very beginning of their compositional process, is proposed and established. Ongoing studies into the creative and compositional process conducted by social psychologists and musicologists are reviewed, revealing the impact of early interactions with music and music education on a composer's process and their proclivity towards certain musical elements. Research is undertaken in the creative process of other composers, postulating additional support for the 'colour-first' designation.

Research into my own compositional process is conducted and a set of questions on "how composers compose", devised by Dr. Bernard Andrews of the University of Ottawa is used to maintain an extrinsic perspective. Investigations into formative musical development and career pathway reveal the origination of my 'colour-first' approach, as well as my ongoing

dedication to the creation of educationally-based repertoire. The application of my established 'colour-first' approach to composition is explored through an investigation into the creative portfolio. The creative portfolio, consisting of eight works, includes a four-movement symphony, six works for apprenticing musicians of varying capability (an apprenticing musician is a term defined in this study as any person, of any age, learning to play a wind band instrument), and an additional short piece for professional musicians. The investigation and review of the creative portfolio reveals the enduring impact of familial influences, education and professional experience on my creative process and resultant compositional voice.

To establish the validity of the unique contribution to wind band repertoire this creative portfolio provides, an investigation into the wind band and its repertoire is also necessary. This includes an historical account of wind band instrumentation development, and an overview of the body of work currently written for the medium. Collectively, the study provides insights into the impact of the wind band's functional role on the development of repertoire, as well as the formulation of early societal disparagement based on a haphazard array of instrumentation. The deviations in instrumentations are particularly pertinent to this study, as each work in the portfolio, stemming from a 'colour-first' perspective, offers alterations to instrumentation in an effort to best explore the timbral capabilities of the wind band medium across multiple genres.

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Introduction

Purpose of this study

French Impressionist artists were widely revered for their masterful utilisation of colour and light. Jazz musicians were, and still are, held in high esteem for the colours they bring through harmonic passages, including the inversions and voicing of each chord. Modern architects are valued for their ability to employ light and how well they blend structures into the surrounding colours of their intended landscape. Depending on the occupation, an individual's delicate use of colour can define their ingenuity and have a profound impact on their prospective audience. People have long held a fascination with colour, how we each perceive it and the impact it has on us as sentient beings (Mausfeld, 2003). Hence to further contribute to humanity's fascination with colour, this study explored my own relationship with visual and aurally based tone colours, through the exploration of a self-professed claim of being a 'colour-first' composer. My 'colour-first' approach to composition was unearthed through an autoethnographical study of life experiences and their influence on the creative process used to transform 'colour-first' ideas into musical compositions. Extensive experience in music education has facilitated a career in writing for the wind band (as they prominently feature in the educational context), and this study not only offers eight new works to the repertoire for this medium (across a range of genres), it also offers insights into the historical influences that have guided the development of wind band genres and instrumentation. Such insights provide context for each composition in the creative portfolio and how they offer, at times, a unique contribution to the repertoire.

The *wind band* is a musical medium that encompasses an ensemble of instruments from the woodwind, brass and percussion families. Whilst the current design of the wind band is a comparatively recent species in the field of instrumental music, thousands of wind band programs now exist in schools, universities, communities and the military throughout the world. With a large percentage of these ensembles existing in educational settings, most

composers who write exclusively for wind band possess the ability to create music for musicians of wide-ranging capability in assorted settings.

The development of wind band composers, particularly those with an educational focus, came about as a result of the successful school band movement that occurred in the United States of America in the 1920's. Sadly, growth in repertoire for apprenticing[1] ensembles has been restricted over the past century, largely due to the stringent parameters placed on composers by publishers of wind band music (Goldman, 1946; Allsup, 2012; Budiansky, 2005; Humphreys, 1989; Jones, 2008). Most composers who write for apprenticing wind bands adhere to globally established *educational* parameters pertaining to the musical elements of rhythm, instrumentation, harmonic considerations including key signature, form, phrase length and orchestration. The result is a plethora of similar sounding material, with limited exploration in new timbres. Additionally, external studies into the composer's timbral exploration of the wind band at the apprenticing level are virtually non-existent.

At the professional end of wind band repertoire, the environment could not be more different. Since the mid-twentieth century there has been an explosion of new works written for the wind band by respected composers who have experimented with instrumentation and compositional approach. The cultivation of new compositions has fostered a rich collection of works, and the study and analysis on these works have helped to inform conductors during their score study and rehearsal preparations in order to provide authentic and successful performances. However, orchestration resources for wind band are limited and whilst some do exist, most methodologies adhere to the more traditional timbral combinations that have come to be expected by many conductors throughout the western world. Consequently, there has been little growth.

Hence, this study not only explored the process and impact of the 'colour-first' approach on my own compositions, it is hoped that it will also encourage musicologists, psychologists and

[1] A note about the term 'apprenticing'. As wind bands can be populated with learning musicians from a variety of demographics including primary, secondary and tertiary students and late-starter adults, the term 'apprenticing' is utilised to represent all learning musicians who play an instrument in a wind band.

other composers studying the musical creative process to consider the element(s) of music utilised by composers when generating their first musical thoughts. In addition, the mind of a composer-educator was explored to ascertain whether or not a different approach was taken when writing works for apprenticing musicians. My main goal was to contribute a body of work written for the wind band that explored timbral blends for a range of ensembles with differing capability. Through the exploration of the creative portfolio through a 'colour-first' lens, the focus was not on the final product, but on the compositional process, for it was here that answers pertaining to the central question, "how does a 'colour-first' composer exhume timbrally-inspired ideas and transform them into musical compositions", were revealed.

Methodology

Like post-graduate composition students before me, I employed an autoethnographical methodology to explore my 'colour-first' compositional approach and its application to the wind band medium. Using autobiographical processes such as reflection, journaling, mind-mapping and drawing, I have recognised previously unidentified aspects of my compositional approach, enabling a thorough investigation into the mind of a 'colour-first' composer who creates music for apprenticing and professional musicians.

The study had three aims:

Aim 1: *Define the 'colour-first' composer and my own 'colour-first' approach;*

Aim 2: *Explore the 'colour-first' approach through the creation of a portfolio of works for wind band of varying ability;*

Aim 3: *Investigate the impact of formative development and career progression on my compositional process and product.*

To achieve these aims and maintain an external perspective (when appropriate), the *P4* questioning model devised by Bernard Andrews in his article "How Do Composers Compose: In Search of Questions" (Andrews, 2004), was utilised. The *P4* model, (the '4' representing four sets of questions, the 'P' stemming from the designation assigned to each set that begin with the letter 'p'), considers four aspects of a composition that may impact its creation: the *P*erson writing it, the *P*rerequisites (training and experience) obtained by the person, the

compositional *P*rocess utilised by the person and the final musical *P*roduct. I do not list these questions, nor answer them in detail. Instead, I have used the "person", "prerequisite" and "process" components to focus on the "inherent" and "from the beginning" aspects of the 'colour-first' composer definition. In addition, please note that every work is not analysed from start to finish. Instead, elements of each work in the portfolio are appraised throughout the exegesis in order to establish an all-encompassing examination of the 'colour-first' compositional process, which is the main focus of this thesis.

Chapter Overview (Part One): Introduction – Historical Context – Literature Review – Life Experience

Part one of the thesis was a combination of ethnography and autobiography. From an ethnographical standpoint, I examined the culture of the wind band genus, how it came to be what it is today and the impact that historical factors have had on instrumentation and repertoire. The definition of a 'colour-first' composer was proposed and established. The thesis then takes an autobiographical viewpoint by examining the impact various music educators have had on my relationship with music, and how the instruments and ensembles I performed on/in fostered a fascination for timbral exploration.

In Chapter One the historical formulation of wind band instrumentation was explored. What is not commonly known is that the construction of a balanced and harmonious instrumentation was not easy for band conductors, and it wasn't until the mid-twentieth century that an international contingent came together to discuss instrumentation issues and propose a solution (Battisti, 2002). The haphazard pathway to establishing a balanced and harmonious instrumentation was a key component to this study, as before such balance existed, few composers composed music specifically for the medium.

In order for the reader to comprehend why timbral exploration was important to the development of wind repertoire, it was necessary to first divide the body of music currently performed by the ensemble into a series of genres. Through research into genre classification, a map of established genres relevant to wind band music was also established in Chapter One.

Such definition delineated my place within the genus as well as the uniqueness of my contributions with regard to timbre and compositional approach.

In Chapter Two the definition of a 'colour-first' composer, being one who inherently composes with tone colour from the very beginning of their compositional process, was explored. To justify this self-proposed definition, an exploration of key words guided the chapter including 'tone colour', 'inherently' and 'creative process'. At first, the etymology of the term 'tone colour' and 'timbre' was researched, as well as how it became part of the regular musical vocabulary. A thorough exploration into the creative process was also conducted, stemming from the *Four-Stage Creative Model* pronounced by Wallas in 1926 (Wallas, 1926). Additional research was conducted into the compositional process including the works of Austrian critic and psychologist Max Graf (Graf, 2013, first published in 1947) and American social psychologist Stan Bennett (Bennett, 1976). These studies, and others, helped to formulate a model for compositional process that aligned with my own procedure. A review of the impact of visual colour on other composers was conducted as well as an investigation into the concept that a 'colour-first' composer "*inherently*" composes with tone colour from the beginning of their process. Studies by psychologists and musicologists into the musical conception of a new piece revealed that composers indeed have different ideas from the beginning of their process and that these ideas are often influenced by their music education and life experiences.

In Chapter Three, I reviewed the possible influences of my own life experience on my formulation as a 'colour-first' composer. It was Stan Bennett (Bennett, 1976) who brought to my attention the idea that a composers' first experiences with musical composition may have an everlasting impact on their compositional voice. To my own part this has proven true. The first instrument I played, the first piece I composed and my earliest memories of music all point toward an ongoing, centralised fascination with tone colour. In addition to exploring autobiographical details for their impact on process, I also reviewed the impact of career opportunity (as detailed in the *P4* questioning model by Andrews) with particular regard to my work in education. Such introspection contextualised my focus on the wind band, revealing how I came to be in the unique place I find myself: an Australian female composer who writes exclusively for the wind band medium.

Chapter Overview (Part Two): Compositional Process – Composing for apprenticing musicians – Composing without limitation

Part Two of the thesis explored the educational-based/artistic-based compositional aspects of my creative output and the impact that the 'colour-first' approach has had on compositional process. It begins with Chapter Four. In this chapter, an in-depth review of the formulation of my compositional process was provided. The process for creativity aligned with previously studied models. Hence, the language used by Max Graf in his aforementioned 1947 study of composers and their approach to composition, was adopted. This included dividing the process into four main components:

1. Productive Mood
2. Musical Conception
3. Sketching
4. Composing

A portfolio of eight original works for wind band was created as part of the submission. Five of the works were composed exclusively for apprenticing wind ensembles. The sixth combined a professional saxophone quartet with more advanced apprenticing musicians. These six pieces fall under the education-based category of wind band repertoire (see Chapter One, Table one) and make up approximately one half of the composition portfolio. The remaining two works were placed in the artistic-based categories, one of these works was a four-movement, 25-minute symphony, the other, a five-minute exploration of clouds of tone colour.

Compositional strategies that focus on timbre for apprenticing wind ensembles

My career as a practising music teacher and band director of more than twenty years has had a profound impact on my compositional career. Whilst the compositional process utilised for apprenticing and professional musicians was found to be almost identical, considerations must be made when writing for musicians who have limited capability. For me, such considerations stem from a range of teaching and learning experiences collated throughout my career as an educator. These include:

1. Elements of brain-based learning theory as written and researched by Renate and Geoffrey Caine (Caine, 2009);
2. The educational philosophy of Alfred North Whitehead (Whitehead, 1967);
3. The Orff-Schulwerk approach to music education (Orff, 1995);
4. Vocabulary: verbal (terminology) and non-verbal (conducting gesture);
5. The role of process in a goal orientated teaching environment (Bruner, 2009);
6. Rehearsal strategies and instructional approach (ensemble plus or minus individual instruction);
7. Pitch range of each instrument at varying stages of learning;
8. Seating plans and rehearsal spaces;
9. Instrumentation;
10. Music literacy (visual and aural).

Through the course of this study, three contrasting formats that combined educational considerations with compositional approach were created. Two of each of the six works written for apprenticing musicians aligned to each format:

1. Composing pieces: *13 Moons, Sculpturesque*

Composing pieces enable students and their director to compose with the musical elements of structure, texture, timbre and expressive techniques. I have composed the pitch material for ensembles to utilise in their musical creations to save rehearsal time and ensure cohesion. An important feature in composing pieces was their ability to teach students about timbral blend. During the creative process, students experimented with instrumental blends, placed their pitch material in differing octaves and assessed the impact of these of the overall sound of the ensemble. In effect, I created a resource that lead students through a compositional approach focused on timbre.

2. Colour wheel scores: *Letter from Sado, Earthshine*

A *colour wheel* score was designed to divide the ensemble into teams designated by a specified colour (red, yellow, blue etc..). The teams of instrumentalists were invited to sit

in small circular groups during the rehearsal process for a host of educationally-inspired reasons. Compositionally, material was composed for each team and the lines woven together to create the composition. These were composed with the rehearsal process in mind and gave rise to various rehearsal strategies, as well as alternating timbral blends. Additional creative components were also used to allow students the opportunity to make creative team decisions.

In *Earthshine*, the colour teams were mostly instrument specific (Flutes, Clarinets etc..). In *Letter from Sado*, the teams were a blend of pitch-related instruments. These alternate timbral blends and creative opportunities produced differing timbral qualities from the ensemble that changed with each and every performance. This compositional strategy has now become an integral aspect of my work for apprenticing musicians.

3. Collaborative pieces: *Lessons from Mother Earth, Catango Five*

Collaborative pieces provided mentoring opportunities for musicians of differing capabilities in an ensemble context. In *Catango Five*, a professional saxophone quartet was paired with a more experienced apprenticing ensemble. Instead of taking the traditional *concerto grosso* approach to a soloist feature, I fused the quartet within the ensemble. At times, the quartet played alongside the ensemble as lead players, at other times they were featured as soloists. In *Lessons from Mother Earth*, a melody was specifically written to be singable by children aged 5-7. The work was inspired by a text of the same name that targets the 5-7 years age group. The goal here was that a neighbouring band, or ensemble in their own school would share the piece with the 5-7 year-olds, after they had become familiar with the text *Lessons from Mother Earth,* and learned to sing the melody.

The 'colour-first' ideology was endemic to each of these works and resonates in different ways, depending on the inspiration for the work and adopted approach. The main goal of each format was to provide directors and students with a broader range of timbral music making experiences. Secondary goals were to provide students with an optimal learning experience

whilst developing practical skills, harnessing creativity and establishing musical independence. However, as this study was focussed on composition and not music education, the educational outcomes achieved through these works was not explored.

Chapters Five and Six provided the opportunity to conduct an in-depth study into the six works written for apprenticing musicians. Crucially, this included investigating the ongoing influence of life experience on my 'colour-first' compositional approach, and how initial ideas were translated into the form of a musical composition.

Composing music through a 'colour-first' lens without limitation

Through the writing of *Symphony No. 1: Leunig's Prayer Book* and the work *Peace Dancer*, I utilised a 'colour-first' approach through the combination of divergent compositional devices and alternating instrumentations. In Chapter Seven, the following compositional devices and how they have impacted the creation of the symphony were explicated:

1. Drawing/imagery
2. Mind-mapping
3. Improvisation/Transcription
4. Mathematical structures

Symphony No. 1: Leunig's Prayer Book, is a four movement work based on four prayers written by Michael Leunig to delineate the arrival of the seasons, as published in the text, "When I talk to you" (Leunig, 2006). Permission to use these prayers and publish them in the completed work was sought and granted from both the author and the publisher.

Limits of study

Study conducted into the history of the wind band and commentary on repertoire development was focused on the American tradition. Whilst there are strong wind band traditions in both Eastern and Western civilisations, including Japan, Korea, Thailand, Germany, Spain, Russia, Italy and England, it has been the American wind band tradition that has had the greatest impact on me as a student, teacher and composer. The Australian school

band movement has been largely influenced by the American wind band tradition (Fraschillo, 2014; Southcott, 2012) and as a result, I grew up performing and conducting American music whilst teaching wind bands. Additionally, the majority of my compositions are now published and performed in the United States. Whilst I feel that I have developed an Australian compositional voice and that my approach to the ensemble differs to my American counterparts due – in part – to isolation, it seemed appropriate in this autoethnographical study to limit all commentary on repertoire and historical development to an American perspective, as this tradition has largely influenced my compositional development.

Notes regarding the Creative Portfolio

The creative portfolio of scores, recordings and score sample audio files complimentary to this thesis are available at:
https://www.jodieblackshaw.com/phd-thesis-audio-sound-samples

Please note that not all score samples are linked to an audio file. Only score samples within the thesis annotated with the phrase "audio available" have a sound file reference for your convenience.

Scores and recordings of the completed works discussed in this thesis are available at:
https://www.jodieblackshaw.com/

Chapter 1

Categorising wind band repertoire through historical perspectives.

> Why this cold-shouldering of the wind band by most composers? Is the wind band – with its varied assortments of reeds (so much richer that the reeds of the symphony orchestra), its complete saxophone family that is found nowhere else ... its army of brass – not the equal of any medium ever conceived? As a vehicle of *deeply emotional expression* it seems to me unrivalled.
>
> (Lewis, 1991 p. 126)

Grainger wrote the above in August 1939 as part of the program notes for his wind band work *Lincolnshire Posy*. He clarifies that at the time, most of the music played by wind bands was not originally conceived for the medium. Whilst Grainger was well aware of what a wind band was - having served as a bandsman in the 15th band of the Coast Artillery Corps during World War I (Bird, 1999) - it appears other composers either did not understand the medium, or chose to ignore it. The international wind band scene was aware of their repertoire crisis and put several factors in place to rectify the situation. A battle in instrumentation standardisation ensued in the early 1950s, with some factions wishing to lock-in an exact instrumentation for the "concert band", whilst Dr. Frederick Fennell did the opposite and created a flexible "wind ensemble", believing it would attract more composers (Battisti, 2002; Hansen, 2005; Whitwell, 1985). Other factors that attracted USA-based composers to create works for the medium were intonation stabilisation, conductor proficiency and an increase in ensembles at the tertiary level. Technological advances in the instrument-making industry stabilised previous intonation concerns and an influx of university-based conducting courses improved

the wind band conductors' proficiency on the podium. The wind band, now populated with an array of tone colour equal to the orchestra and multiple performance opportunities for new music due to the increase in university wind ensembles, became an attractive opportunity for composers (Campo, 2007). Thus, a repertoire of new music for an unexplored medium was born.

To understand what kind of wind band composer I am, it is important to initially identify and categorise the multiple genres now associated with the medium, and explore their historical significance. I will then be able to place my work within the framework of these genres, and more importantly, demonstrate how the works created for this portfolio augment some of the least explored aspects of the repertoire.

Please note: the repertoire developments explored in this chapter pertain to music composed for a minimum of 12 different woodwind and brass players plus percussion. Hence, historical accounts of the development of *harmoniemusik* will not be included.

Etymology of the word '*band*'

First and foremost, it is important to understand the genealogy of wind-based ensembles and more fundamentally, the etymology of the word *band*. The etymology of the word *band* provides foundations for the various categories of wind band repertoire.

Interestingly, the word *band* was not originally associated with music. *Band*, from the Old French/Middle English word *bende* of the 12th century, was first used to describe a flat strip or a tool used to bind items together. By the 15th century, the term was used to depict an organised group of men (usually armed) whose association was designated by the wearing of a *band* of cloth around their arm (Partridge, 2006). The term's musical connotation developed in the late 15th century. Instrumental groups attached to *bands* of armed men became *bands* of musicians by association. By the end of the 15th century, the English and French were using the term to describe any collection of musical instrumentalists.

A musical *band*, whilst having military connotations today, was linked to the orchestra for some centuries. Even the 1955 Grove Dictionary of Music and Musicians acknowledges that the term *band* was historically used to colloquially describe an orchestra, but,

> ..it has now dropped out of currency in this sense in literary use, where it is reserved for military and brass teams.
> (Blom & Stevens, 1955)

Whilst the term *band* was used colloquially in a variety of music circles, the association with military musicians has held fast to the present day. Military bands are the grandfather of all wind bands and whilst there is not enough scope here to delve into the deep and fascinating multinational history of military, civilian and student band development, a basic understanding is relevant to understand the development of instrumentation and the categorisation of wind band repertoire.

The historical development of the modern wind band

It is believed that it was the Ottoman Empire that first used bands in a military capability in the 12th century. The Turkish embraced music as part of their militia and janissary bands. These bands were known as *Mehter* and comprised of kettledrums, bass drum, cymbals, Trumpets, and a *zurna* (an instrument fashioned on the shawm, a medieval instrument that was the forerunner to the Oboe). The *Mehter*,

> ..played constantly in order to set a march rhythm, to guide and end manoeuvres, and, most of all, to spread fear and terror among the enemy troops. Beyond warfare, the Mehter performed for state ceremonies and in religious prayer rituals.
> (Rempe, 2017, p. 329)

European fascination with Ottoman culture and customs occurred after signing the Karlowitz Peace Treaty in 1699 and it is believed that this fascination caused the infiltration of percussion instruments into European military bands and orchestras. The first European

military bands predominantly utilised woodwind instruments and their repertoire formed a functional role (Rempe, 2017). However, the Age of New-Imperialism (1870-1914) and musical instrument inventions such as the brass piston valve, Boehm system for woodwind instruments and the saxophone and sax-horn families, significantly altered the instrumentation. Brass instruments, in some cases, completely replaced their woodwind counterparts and thus, bands, with their full complement of Turkish-inspired percussion and sound-projecting brass families, became well suited to outdoor performance venues as well as fulfilling their military role. Indeed, there is an old-middle English association with the word *band* that suggests “noise” and the idiom “beat the band”, used in the late 19th century, was an instruction to soldiers to make enough noise to drown out their musical compadres ("Farlex Dictionary of Idioms,", 2015).

On July 14, 1789, the French National Guard, (a civilian militia) stormed Bastille prison and overcame King Louis XVI. In September of the same year, non-musician Bernard Serrette (1765-1858), under the tutelage of Francois Joseph Gossec (1734-1829) and Charles Simon Catel (1773-1830), established the first French National Guard Band. The band was unlike any other in the world, containing a minimum of 45 players. It was also the first to feature a choir of Clarinets (Whitwell, 1979). French military music was to become synonymous with France’s next century of political and civilian turbulence, often performing nationalistic music to inspire support from the ailing French population. During this era, more than 500 works were especially composed for the French National Guard Band and whilst hardly any of the works have survived, developments in instrumentation and composition had a profound impact on the development of the modern wind band (Kehl, 2014).

The Age of New-Imperialism coincided with the end of the American Civil War and contributed to a boom in both military and civilian bands. The term “concert band” was introduced to demarcate a band that performed concerts from one that served a military role. The Golden Era of Bands (1880-1920) was fostered by Irish-American Bandmaster Patrick Sarsfield Gilmore, acclaimed for influencing instrumentation and raising performance standards (Grose, 1969; Cipolla, 1988). It was during this time that John Philip Sousa earned his reputation as the most famous bandsman in the world (Bierley, 1973). Military bands were

also extensively touring Europe in the late 19th and early 20th century and their concerts often rivalled their orchestral counterparts (Rempe, 2017).

It could be argued that the populist era of civilian bands at the turn of the twentieth century offended the more elite concert goers and hence why art-composers opted to avoid the medium. As concerts were held predominantly outside and instrumentation was often haphazard, the quality of performance by many of these bands was loud and questionable:

> Cacophony is hardly the term to apply to the performance of many of them; the noise in a boiler-maker's shop is harmony by comparison.
> (Clappé, 1911, p. 37)

Arthur Clappé (1850-1920), an Irish conductor and composer who specialised in bands and held prestigious positions in the United Kingdom, Canada and the United States, believed that the 'chaotic' arrangement of instrumentation was also partly the cause of 'cold-shouldering' (as referred to by Percy Grainger in the opening quote of this chapter):

> The band, younger in the art world, never taken seriously by the masters, is still chaotic, no agreement having yet been reached as to numbers, combinations of individual or families of instruments requisite to create an organization, that shall, to their limitations, fulfil the demands of art and become satisfying to composers and connoisseurs.
> (Clappé, 1911, p. 35)

Changes in instrumentation with the heavy use of brass and percussion made bands more suited to outdoor concerts that were often populated by people with more limited economic means. Hence, the rise of bands with their lack of artistic repertoire and somewhat haphazard instrumentation (and resulting lack of balance and sonorous qualities) brought about an association of bands with the less desirable ranks of society. Quieter instruments, such as strings, Flute and recorder were more suited to indoor concert venues. It has been suggested

that the more 'elite' audiences preferred to hear their music indoors (Levine, 1990) and attendance of these indoor musical events in part, represented a family's societal stature:

> Appreciation of fine arts became a mark of high status in the late nineteenth century as part of an attempt to distinguish "high browed" Anglo-Saxons from the new "low browed" immigrants, whose popular entertainments were said to corrupt morals and thus were to be shunned.
> (Peterson & Kern, 1996, p.900)

Hence, not only did a change in instrumentation alter the repertoire, it also disconnected the wind band from particular audiences and brought about the association of wind bands with vernacular repertoire[2]:

> Through the centuries, it was the separation in repertoire that allowed for wind music to disconnect not only from its string, keyboard, vocal and orchestral counterparts, but also from itself along the lines of utilitarianism and high art.
> (Caines, 2012, p. 10)

The school band movement

Around the mid-late 19th century, wind bands started to appear in schools. At first, they were external to the curriculum due to the more preferred sacred associations of vocal repertoire for educational purposes. However, bands firmly found their place in United States schools by the 1920s. The post-war economic boom, proliferation of military musicians, introduction of democratic education and the instigation of the National School Band Contest all heavily contributed to the rise of the school band movement (Humphreys, 1989; Holz, 1962; Whitehill, 1969). School bands gradually replaced the popular civilian bands from the turn of the century, yet the repertoire largely remained undeveloped.

[2] Without doubt the repertoire selections played by the wind bands of this time also influenced public opinion. However, as this study is focused on the timbral qualities of the modern day wind band, we focus here on the establishment of a balanced instrumentation and the impact this had on attracting composers to write for the medium, rather than repertoire played.

The explosion in school bands and orchestras between 1920-1940 was nothing short of phenomenal and the expediency of growth in population was not matched with growth in repertoire:

> In 1922 there were an estimated 60,000 pupils in approximately 200 bands and orchestras … by 1938 about 2 million individual students [were] in bands and orchestras in the United States.
> (Fonder, 1983, p. 25)

For pedagogical purposes, method books were created for teaching instrumental ensembles in a classroom setting inspired by the British "Maidstone Movement" in school-based violin teaching (Humphreys, 1989). However, performance repertoire was limited to orchestral transcriptions, marches, waltzes and popular songs (Battisti, 1995). There were no orchestration books per se, what did exist were a handful of 'scoring' texts that assisted music educators in the arrangement of well-known music for their ensembles of limited capability (Clappé, 1921; White, 1924). Whilst well known leaders in the field were vocal about the state of repertoire played by school bands at the time (Goldman, 1946; Goldman, 1938), little was done to cultivate a sound pedagogical approach and library of well written works that would fulfil both educational and performance purposes.

The influence of Edwin Franko Goldman

The increase in American school bands during the 1920s fostered an interest in school band competitions (Holz, 1962). At the same time, composer and conductor Edwin Franko Goldman was at the helm of the immensely popular New York based 'Goldman' band. Goldman was responsible for the cultivation of several highly acclaimed works from composers such as Arnold Schoenberg and Darius Milhaud and in 1928, brought together nine band directors, (himself included) to discuss issues facing the American band director. These included instrumentation and repertoire. The gathering formulated the inception of the American Bandmaster's Association (Davis, 1987).

In 1931, at an American Bandmasters convention held in Boston, a special committee was formed to discuss issues pertaining to wind band instrumentation. The committee proposed the following standardisation of wind band instrumentation,

Conductor (3 staves) 1st Flute in C 2nd Flute in C or C Piccolo 1st Oboe 2nd Oboe (and English Horn) E♭ Clarinet 1st B♭ Clarinet 2nd B♭ Clarinet 3rd B♭ Clarinet 4th B♭ Clarinet E♭ Alto Clarinet B♭ Bass Clarinet 1st Bassoon 2nd Bassoon Soprano Saxophone in B♭ (ad lib.) 1st Alto Saxophone in E♭ 2nd Alto Saxophone in E♭ Tenor Saxophone in B♭ Baritone Saxophone in E♭ Bass Saxophone in B♭ (ad lib.)	1st Horn in F 2nd Horn in F 3rd Horn in F 4th Horn in F 1st Alto in E♭ 2nd Alto in E♭ 3rd Alto in E♭ 4th Alto in E♭ 1st Cornet in B♭ 2nd Cornet in B♭ 1st Trumpet in B♭ 2nd Trumpet in B♭ 1st Trombone in Bass Clef 2nd Trombone in Bass Clef 3rd Trombone in Bass Clef 1st and 2nd Trombone in Treble Clef Baritone in Treble Clef Euphonium in Bass Clef 1st and 2nd Basses (printed together)	String Bass Tympany [sic] (xylophone, etc.) Drums and Traps Harp (ad lib.) 39 parts and 4 ad libitum parts.

Table 1-1 – Proposed standardization instrumentation for the wind band (1931)

In 1934, Goldman published the article *Band Betterment* that detailed the above instrumentation as decided upon in Boston 1931. Goldman stated that:

> The list … refers to the edition of the music rather than the number of players. Every capable bandmaster will, of course, know how many of each kind of instrument he must have to secure a proper balance of tone. The instrumentation for Concert Bands and the suggestions recommended by the American Bandmasters may not please everyone, but they are surely safe and sane.
> (Goldman, 1934, pp. 29-30)

The discussion of instrumentation, dating back to Clappé's text of 1911 permeated international wind band affairs in the first half of the twentieth century. Conductors of wind bands were frustrated by their limited repertoire and many felt that the variances in instrumentation deterred composers from embracing the medium. In 1948-49 an *International Committee for the Standardisation of Instrumental Music* (CIMI) was formed to discuss the need to formulate an international standardisation in wind band instrumentation, so that repertoire could be played by any band, anywhere in the world (Dvorak, 1952).

It is here that the opening quote by Percy Grainger comes into context. Whilst a handful of artistic works had been written for the wind band by composers such as Holst, Vaughan Williams, Hindemith and Respighi, few of their contemporaries embraced the medium and repertoire for educational purposes remained virtually non-existent. It seemed that a standardisation in instrumentation was the answer to attracting highly regarded composers to the rapidly growing wind band movement. However, not everyone agreed with the notion of standardisation and in 1952, a conductor at the Eastman School of Music trialled something new that would ultimately change the course of history.

Frederick Fennell's Wind Ensemble

In 1952 Frederick Fennell, Director of Bands at the Eastman School of Music, University of Rochester, New York went against the grain of his colleagues and devised a program of works for what he aptly named a 'wind ensemble' (Manfredo, 2006; Battisti, 2002). As Caines writes in his Fennell-based dissertation:

> To be a genre that could be considered high art, there needed to be a switch in how winds were used. The only way Fennell could envision this as an effective change was to rethink the standardisation and repertoire of wind music. Fennell believed that the creation of an independent repertoire would bridge the gaps between the competing factions of wind music, i.e. vernacular and cultivated.
> (Caines, 2012, p. 4)

Fennell's *wind ensemble* was comprised of,

> ..the basic format of the British military band … increasing it to allow for triples in the reeds required for Stravinsky's *Symphonies*, each player would be the soloist his private teacher taught him to be..
> (Fennell as cited from Battisti, 2002, p. 54)

The instrumentation Fennell first used for his *wind ensemble* was:

2 Flutes and Piccolo and/or Alto Flute	3 Cornets in B♭ or 5 Trumpets in B♭
2 Oboes and English horn	2 Trumpets in B♭
2 Bassoon and Contrabassoon	4 Horns
1 E♭ Clarinet	3 Trombones
8 B♭ Clarinets or A Clarinet (divided as demanded by composers)	2 Euphoniums
	1 E♭ Tuba
1 E♭ Alto Clarinet	1/2 BB♭ Tubas if desired
1 B♭ Bass Clarinet	1 String Bass
2 E♭ Alto Saxophones	Other instruments – percussion, Harp, Celesta, Piano, Organ, Harpsichord, solo string instruments and choral forces if desired
1 B♭ Tenor Saxophone	
1 E♭ Baritone Saxophone	

Table 1-2 – Fennell's first wind ensemble instrumentation
(Battisti, 2002, p. 54)

Fennell did not wish to standardise wind band instrumentation; he simply wanted to formulate an instrumentation that provided a flexible "sound resource" of tone colours for composers to suit their individual idiosyncrasies (Fennell, 1954, p. 52). Once he learned of the capability of the wind ensemble, Fennell passionately engaged in a whirlwind of touring and recording:

> The rigorous recording schedule of the group and the cross-country touring made the Eastman school less insular and confined to Rochester. The record deal struck between the school and Mercury records in the early 1950s made the EWE [Eastman Wind Ensemble] a well-known name in every band room in North America.
> (Caine, 2012, p.36)

Within five years of Fennell's establishment of the Eastman Wind Ensemble a considerable quantity of American university wind band programs had created a similar ensemble (Caine, 2012). Discussions regarding instrumentation standardisation continued well into the 1960s, and whilst "an attempt was made to revive the topic in the late 1960s … it was met with no enthusiasm" (Battisti, 2002, p. 76).

In 1952 Fennell had succeeded in constructing a solution to the wind band instrumentation issue. His extensive efforts with regard to recording, touring and subsequent commissioning of repertoire throughout the 1950s and 1960s helped to establish a broad collection of artistic works composed for the wind band by an international array of high-art composers. Whether it was the establishment of a balanced, sonorous yet flexible instrumentation, the introduction of wind band at the university level and the resulting improvement in concert performance and conducting prowess, or technological advancements made in musical instrument construction, the wind band matured beyond their 'low-brow' functional role into an ensemble with an ever-evolving repertoire. However, the military association and scarcity of both internationally positioned professional wind ensembles and radio broadcasting of wind band music still occludes the carefully nurtured artistic repertoire from entering the upper echelons of musical society. A closer look at genre formulation reveals the impact of utilitarian and educational roles on public perception of the repertoire, providing possible explanations into the continued 'cold shouldering' of the medium.

Utilising the *sociological* concept of genre

The majority of wind band music was initially formulated to fulfil the ensemble's functional role, be that ceremonial or educational. Hence, to build a framework of wind band genres, I have utilised the Lena and Peterson (Lena & Peterson, 2008) viewpoint on genre classification, as this informs the construction of a sturdy map of musical genres associated with an historical perspective:

> ... we define music genres as systems of orientations, expectations, and conventions that bind together an industry, performers, critics, and fans in making what they identify as a distinctive sort of music.
> (Lena & Peterson, 2008, p. 698)

Lena and Peterson view genre through the lens of four different sociological forms:

1. Avant-garde

Small, creative circles of musicians brought together in the quest to forge a new sound. An avant-garde genre is usually leaderless, eccentric and virtually unknown to anyone other than those invested. The name of the genre is generally selected by the members or is site specific e.g. *alternative Czech heavy metal fusion*.

2. Scene

Localised groups of people who are spatially situated, brought together by the appreciation of the same style of music. Some scenes are completely virtual (internet-based), whilst others take on a more physical form. Most scenes originate in localised socio-economic environments and musicians often create specific performance conventions to distinguish their genre from rival scenes e.g. *jazz, including Dixieland, big band, free etc.*

3. Industry

Controlled by multinational or independent constituents and driven by a large fan base. There are various stakeholders: publishers, recording companies, radio stations and retail outlets, with the primary goal being to reach genre-specific audiences. Copyright law can stifle development of industrially defined genres and at times, division occurs, leading to the development of new avant-garde or scene-based genres e.g. *rock and pop music*.

4. Traditionalist

An established music form with a focus on preservation and heritage to engender performance rituals on a new generation of performers and fans. The music is perpetuated

by genre-specific festivals and concerts where new performers mix with more established artists. Fans are more hands-on in that they play an instrument or are actively involved in the promotion and/or production of the music e.g. *Scottish pipe bands*, *folk music.*

When it comes to building a map of wind band repertoire, it is necessary to consider these sociological forms. The dissection of repertoire (as I see it) appears as Table 1-3 and here, historical origins are revealed as well as the impact of function on the cultivation of wind band repertoire.

Defining wind band repertoire

It is proposed that wind band repertoire has two main genres, 'Functional' and 'Concert'. *Functional* being music which is played for a purpose, be it (primarily) ceremonial or educational. *Concert* being repertoire performed for audience appreciation by high-level wind bands located in universities or as semi-professional/professional, military/civilian groups. The dissection is confirmed by Colonel Patrick Jones (retired) who surmises that:

> Its repertoire consists of two categories. There is band music that fills social needs as part of the rituals of life… and there is band music written within the Western Art Music tradition that is composed solely for artistic purposes as defined by that tradition. (Jones, 2008, p. 5)

It is fair to surmise that due to the historical evolution of bands, most current wind bands exist within a military or educational setting. Hence, it is of no surprise that Table 1-3 (over-page) reveals that a large percentage of the repertoire exists within the *Functional* genre. The repertoire listed under the *Functional* heading is divided into two sub-genres; Ceremonial and Educational. *Ceremonial* music here delves into the repertoire largely played by military ensembles in their functional capacity; *Educational* music focuses on repertoire utilised in primary, middle and secondary schools.

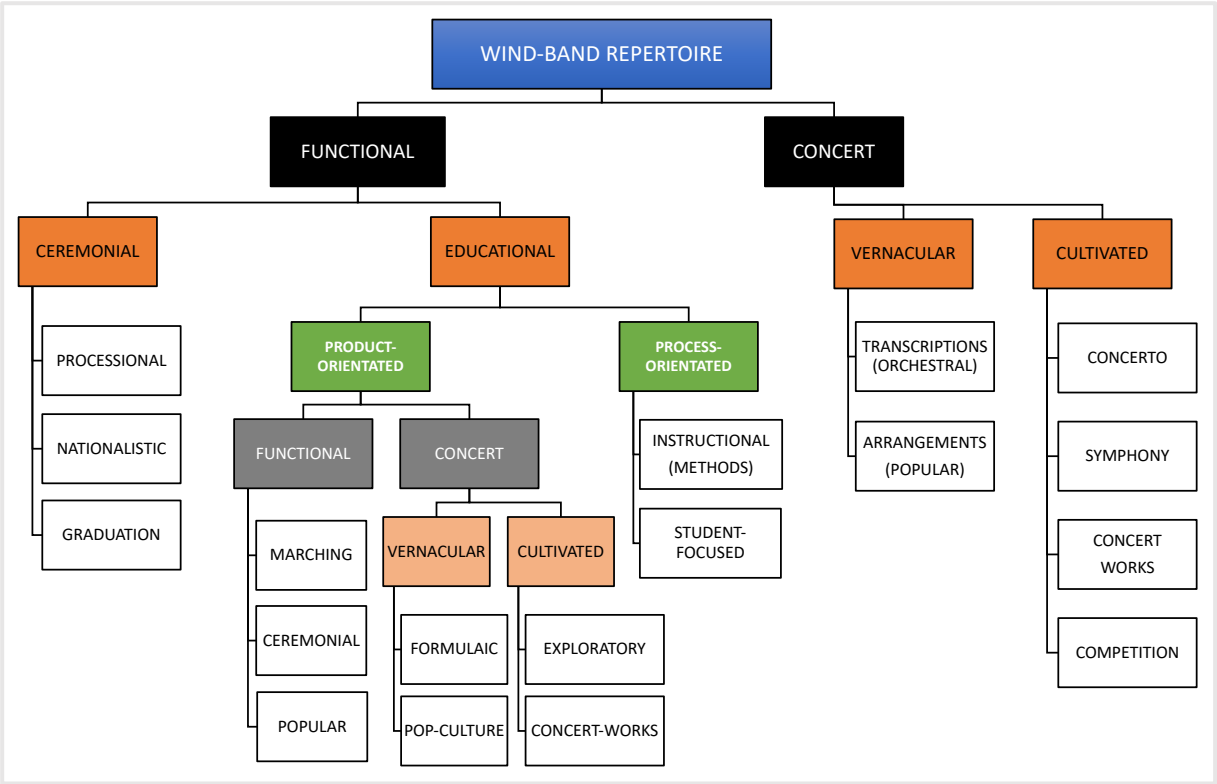

Table 1-3 - Wind Band Repertoire, its genres and sub-genres

The correlation of Lena and Peterson's sociological forms of genre with these repertoire subsets is fascinating. Whilst most of the wind band repertoire categories stem from scene, industrial and traditional-based genres, not all sub-genres do and the distinct lack of an avant-garde movement has had a significant impact on the development of the artistic strain. One could argue that Fennell himself created a vehicle for an avant-garde movement that led to the cultivation of many new and significant works.

Ceremonial music commenced as an Industrial-based genre (a good example being the French National Guard Band). However, instead of the stakeholders being multinational record companies and publishers, they were high-level government departments and heads of state. Composers of *Ceremonial* music, usually military men themselves, were not concerned about popularity or sales; indeed, the only fan-base they needed to gratify was often their head of state (or in the case of nationalistic music, the general populace who were already conditioned to approve of music written with a familiar, localised character). As we learned earlier, music selection by military bands was sometimes a secret code for soldiers and at other times, it was

used to stimulate enemy distress. However, as the role of military bands became more defined, so too did elements of a Traditionalist genre. The permeation of a high percentage of German bandmasters into a diverse range of countries throughout Europe and the Americas in the 1800's also contributed to the uniform development of performance and presentation rituals including livery, configuration and the cultivation of the march as a musical form (Rempe, 2017). In the 21st century, *Ceremonial* repertoire is alive and well and bands associated with this sub-genre have developed a 'scene' of their own. The Royal Edinburgh Military Tattoo is a good example of military groups sharing their appreciation for this ancient musical style and its associated rituals.

The *Educational* sub-genre differs to *Ceremonial* in that the repertoire commenced as a scene-based genre. Band Directors who infiltrated American schools during the 1920s hailed from military or civilian circles, and collectively, they brought the wind band 'scene' with them. As Humphreys states:

> Another factor contributing to the explosion of the school band movement was … changing recreational patterns … Town bands had long provided entertainment ... and contributed to parades and other rituals ... In the 1920s, school bands began to perform these functions and in doing so, replaced the town bands …
> (Humphreys, 1989, p. 55)

Along with being functional, school bands also fulfilled a didactic role, and this is where Lena and Peterson's sociological lens is most pertinent. The debate regarding 'product versus process' objectives in education has been the subject of considerable scrutiny (Plucker, 2004; Robinson, 2010; Popham, 1999; Dewey, 1923) and it is of little surprise that it appears as part of educational wind band repertoire. The sub-genre of *Educational* repertoire clearly shows the dominance of product-orientated repertoire. What the table does not demonstrate is the dominance of product-orientated *formulaic* repertoire. It is proposed here that this dominance is the direct result of the industrialisation of the *Educational* sub-genre of wind band music. In the case of formulaic concert repertoire, it is not copyright law that has stifled artistic growth, but the stringent compositional parameters employed by various influential

publishing houses. Print music publishers categorise educational wind band music into different levels of difficulty, often using the term “Grade” and numerical values one through six, with one being easy and six being very difficult. The composers of formulaic music are most often professional music educators and are required to compose music that adheres to inflexible parameters, often including orchestration. The result? Decades of similar-sounding literature that has triggered an era of both internal and external criticism:

> A great deal of pompous trash is written, called “symphonic”, or “grand”, or bearing some other type of inflated description to foster a baseless illusion in the mind of the composer or the audience or both. It is a misfortune that so much of the educational music falls into this category.
> (Goldman, 1946, p. 261)

It is suggested that the processes employed to generate product-orientated educational repertoire has expedited this Traditionalist form of genre, without enjoying the colourful explorations afforded by the avant-garde, nor the appreciation of musical style developed in Scene-based sociology. Whilst the school band movement (and to clarify, this is specific to elementary, middle and high schools) has its own ‘scene’, it could be argued that the localised school band scenes that exist throughout the western world are not brought together for the *appreciation* of educational wind band repertoire. Congregations of school bands are often competitively based or occur for the sake of teacher professional development; such gatherings are more suitably categorised under the Lena and Peterson label of ‘tradition’ than they do ‘scene’.

The industrialisation of school band repertoire still predominates the sub-genre of educational repertoire; however, in the past 15 years, a collection of independent composers has materialised. The emergence of less controlling publishing houses as well as an increase in independent, self-published composers (arguably made possible by the establishment of the World Wide Web), has seen the beginnings of an avant-garde reaction to the industrial arm of educational wind band music. Additionally, tertiary courses in music education have broadened their subjects to include constructivist-based music pedagogy, causing new

generations of school band directors to seek and create more process-orientated repertoire (Robinson, 2010; Silverman, 1962; Sindberg, 2009; Conway, 2010).

An additional movement that has the potential to feed growth in avant-garde educational material is the rising interest in composers from diverse situations including gender and nationality. Until recently, most composers of wind band music were white and male (a large proportion of music played in schools is composed by white American males (Brewer, 2018)), and whilst this is not particular to the genus, wind band conductors have followed suit with current global fascination in gender and racial equality in concert music (Fowler, 2017; Baker, 2018; O'Bannon, 2016). In 2016 Dr. Rob Deemer, head of composition at the State University of New York (Fredonia), started building a database of works by female composers. In 2018 this project transformed into the 'Composer Diversity Database' (https://composerdiversity.com/about.html). An offshoot of the diversity project has been the creation of the 'Diverse Composers of Wind Band Music' database compiled by Michael Christian Folk. With now more than 3500 works listed in this database, and the insurgence of independent composers, a growing repertoire of cultivated concert works for school bands (process or product orientated) are helping to foster a new compositional approach to educational repertoire for the medium.

For much of the general public, their knowledge of wind band music ceases with the *Functional* genre as many people have heard a military band in a ceremonial capacity, or participated in, or attended a concert by, a school band. However, there is an additional body of Western-art music composed for the wind band that is largely unknown to concert goers. The cultivated arm of *Concert* music can be described as exciting, emotionally dense, playful and thought-provoking; everything art-music should be. If any aspect of wind band music has embraced an avant-garde movement, it is in the cultivated concert works largely instigated by Frederick Fennell and his invention of the wind ensemble.

> Through Fennell's influence, and the influence of several other American conductors, there has been an ongoing series of role reversals in the wind community and the relationship with their audiences. With the continuing legitimisation of wind music,

> this specialised genre has been gaining a foothold in the larger music community as a professional and high art genre, while simultaneously clinging to its more vernacular past.
> (Caines, 2012, p. 4)

Whilst the body of *Concert* repertoire is gaining a foothold in some sectors, it is fair to say that there is a significant lacking in a fan-fuelled 'scene' that is separated from the Functional context. Why? There are several factors at play, and they can be framed once again through the viewpoint of Lena and Peterson's sociological genres. Firstly, the *Traditionalist* nature of bands, with their festivals and conferences, attended by those who either teach or play in such ensembles, are maintaining an introverted view of the repertoire. Secondly, there is a lack of professional civilian wind-based ensembles hosting concerts for audiences to attend. Thirdly, the majority of wind bands performing cultivated concert works are either military or tertiary-based ensembles. Fourthly, the *Concert* works are educationally graded by publishers as a "5" or a "6" (whether they be multinational or independent) leaving many to believe that there are no Western-art works composed for the wind band. Finally, the lack of a large fan-fuelled 'scene' has hindered the development of cultivated wind band works as an Industrial-form. Works are rarely played on mainstream classical music stations and the lack of understanding of the wind band and its multifaceted repertoire is reinforced by secondary/tertiary music history courses who choose to virtually ignore its existence.

Conclusion

The wind band offers a varied and colourful contribution to instrumental music. It is a medium with a respectable history that has developed two rich and worthy musical genres, *functional* and *artistic*. Firstly, there is room for growth. *Educational* wind band repertoire would greatly benefit from the fostering of an avant-garde era that embraces edification, not service, as the fundamental purpose for school bands and their directors. Tradition is important to all musical forms; however, in this digital age when information is readily accessible, the pedagogical frame should be altered to keep bands relevant to our youth. Whilst some argue that bands are already irrelevant to music education, and that a quality music education can be achieved through the study of music deemed more relevant to youth culture (Allsup, 2012; Allsup, 2008; Holsberg, 2009; Jones, 2008), it is argued here that cultivating repertoire that embraces sound pedagogical and democratic devices will not only keep band music relevant to the 21st century child, it will also foster a life-long association with instrumental music.

Hence, as part of this study I have created three different compositional strategies that not only explore timbral colours, they also provide opportunities for students to personally invest in the process of bringing each work to life.[3] As music festivals around the world focus their lens on the inclusion of works by female composers, so too should they be inclusive of wind bands and their artistic repertoire. In 1911 Irish bandsman Clappé stated that:

> The remedy [for repertoire development of the wind band] lies in the hands of the composers. If only they can be brought to consider the wind-band seriously, and, recognising its potentialities as an art factor, be induced to write works suited to its genus, taking into account its remarkable variety of voicing, its infinite shades of tone colour.
> (Clappé, 1911, p. 48)

[3] The purpose of this study is not to research the impact of repertoire written for different kinds of instrumentation on the development of the wind band genre. It is provided for context regarding the current repertoire situation and thus contextualise my own contribution.

In order to achieve Clappé's dream, it is important that wind band composers like myself not only consider alternate timbral combinations available within the ranks of the wind band, but they also consider their audience when creating large-scale artistic works. All too often, concerts are programmed with a large array of heavily orchestrated music that after a short time can become abrasive to a listener unaccustomed with the wind band medium. As a result, several of my works explore alternate timbral and textural combinations. In addition the formulation of the symphony, a work of almost 25 minutes, alters instrumentation in each movement to not only change the timbral expression that I desired, but to also alleviate the audience of the full wind band texture, allowing the intended emotional journey of the work to unfold.

Thanks to the work of Frederick Fennell, a culture of flexibility in wind band instrumentation has been established. Fennell helped to cultivate an array of colourful and wondrous works for the ensemble that may not have been possible if a standardised instrumentation had been implemented. Indeed, one could argue that a standardised instrumentation has been implemented at the school band level and the results speak enough for themselves. Hence, to explore timbral elements of the ensemble at all levels of capability, I have created a portfolio of works utilising my 'colour-first' approach to composition. The 'colour-first' approach, defined in Chapter Two, is made possible by instrumentation flexibility and I have embraced such flexibility in all works, be they for professional or amateur musicians. I have also targeted under-developed aspects of the repertoire, such a process-orientated repertoire for bands with a primarily educational function, in an effort to offer expansion to an under-developed component of wind band music.

Chapter 2
Composing through tone coloured glasses: defining a 'colour-first' composer.

It is proposed here that a 'colour-first' composer is *one who inherently composes with tone colour from the very beginning of the creative process*. The definition has been inspired by my own personal approach to composition. As a result, research into compositional processes and creativity has been focused on studies that align with my approach. It is hoped that aligning my approach with established research into compositional processes will reveal *when* I consider timbre in the creativity timeline, thus providing preliminary insight into the compositional behaviours of 'colour-first' composers in general.

In 1987, Pierre Boulez delivered a paper to the Institut de Recherche et Coordination Acoustique/Musique (the Institute for Research and Coordination in Acoustics/Music: IRCAM) entitled *Timbre and composition – timbre and language.* Within the opening statement Boulez, a composer known for his work in both instrumental and electro-acoustic music, announced that he had opted to discuss the relationship between the compositional process and timbre, what he called "timbre and language" (Boulez, 1987, p. 161), rather than the function of timbre in 20th century instrumental music. Such remarks by Boulez resonated with me and my self-discovery of being a 'colour-first' composer. Hence, I instigated a search regarding the relationship between tone colour and compositional process in an effort to define a 'colour-first' composer and seek other composers who may possess similar characteristics. The act of composing through tone coloured glasses is not a new thought. Developments in instrumentation, scientific discovery and technology have impacted composers in all genres and fostered more than a century of new music that is peppered with a wide range of tone colours. In the preliminary studies this chapter affords, a 'colour-first'

composer is demarcated to be one who actively composes *with* timbre from the outset of their process, as opposed to propagating pitch material and then retrospectively orchestrating that material for a specific instrumental ensemble or electro-acoustic medium. I identified with this definition and have used it throughout the remainder of the thesis to explore the genesis of my compositions, and the influence my 'colour-first' approach had on the portfolio of works created for this study.

Methodology

In the search to define a 'colour-first' composer, it was important to review studies in creativity, compositional process, tone colour and organology[4]. First, the etymology of the term timbre/tone colour was explored. German polymaths Hermann Helmholtz and Carl Stumpf provided foundational research into the scientific explanation and perception of compounding tones respectively, providing theoretical foundations that defined timbre/tone colour from different perspectives.

The technological progression of musical instruments and the invention of new instruments was then investigated. The impact such technological developments had on the timbre of instrumental music fostered a need for written guides to orchestration to detail the qualities and new-found capabilities of all instruments. The early orchestration textbooks from the 19th and early 20th century contain commentary by the composers who wrote them (such as Hector Berlioz, Richard Strauss and Rimsky-Korsakov). These composer comments reveal insights into how they felt about the need for such a text by novice composers, providing an interesting perception into some composer's ideas on the placement of timbre in the compositional process. Specifically, this relates to how they differ from one who orchestrates their musical offerings after the creation of pitch material has occurred.

Next, a review into the impact of imagery/visual colour on a composer's musical output was conducted. Research revealed that elements of nativism (the theory that a person's mental capabilities are innate rather than learned (Dictionary, 2004)), may guide associations between visual colour and pitch range during the initial stages of the compositional process

[4] For the purpose of this composition exegesis, the detailing of methodology has been placed on articulating my compositional approach.

(for example, dark colours-low pitch, light colours-high pitch). However, no conclusive evidence demonstrated an influence of visual stimulation on a composer's tone colour considerations. Whilst some composers claim a direct interrelationship between their compositional process and *visual* colour, the impact of such a relationship with *tone* colour is not apparent. Most common are interrelationships between visual colours and key signature or harmony. In other cases, such as 'colour music', (a movement that explored associations between light and sound wavelengths) the fusion between visual and auditory stimulation for the audience is more important than any compositional expressions of instrumental tone colour (Klein & Cornwell-Clyne, 1926).

With tone colour now defined and investigations into organology, visual colour and music revealing possible support for the concept of a 'colour-first' composer, my research required further investigation into the initial stages of the compositional process. Hence, componential models of the compositional process were explored in the hope of revealing something of relevance about the initial stage of composition. Reviews of psychological and phenomenological literature pertaining to the act of creativity, the person as a creative musician and the outcomes of creative thought were conducted. I state openly that I am not a psychologist and my research into psychology is limited to the confines of this study. However, as the majority of studies into compositional process have been conducted by psychologists it was necessary to step into the field for this preliminary study. As a result, a broad spectrum of psychological studies into creativity have been explored including social psychology, trait approach, problem-solving, bisociative processes, creative novelty and cognitive development and the impact these may have on the initial stages of compositional thought. Research into observations of composers and their process either retrospectively or via real-time analysis including "thinking aloud" research was reviewed, as were the efforts of psychologists and musicologists to devise a componential concept of the compositional process. Comparisons are drawn between differing methodological studies into the compositional process including Graf's four-stage model for composition (Graf, 2013), Bennett's schematic of the composing process (Bennett, 1976), Folkestad's vertical/horizontal model (Folkestad, 1995), and the componential conceptualisation of creativity as devised by Teresa Amabile (Amabile, 1983). The first stage of each of these componential methods were

compared and cross-analysed with studies into creativity; findings provided a review of the impact of the initial compositional conception on timbral considerations.

Etymology

In 1765, Swiss Philosopher Jean Jacques Rousseau first used the term *timbre* during the early stages of the Age of Enlightenment (1685-1815) when he contributed to Diderot's famed Encyclopedia (Diderot, 1765) under the entry for *sound*. The Swiss philosopher's description of sound came at a time in history when established human beliefs were challenged and scientific foundations were required to provide a more quantifiable and tangible definition. Rousseau claimed:

> There are three aspects of sound to consider: 1. The range between low and high, 2. The degree of intensity between loud and quiet and 3. The quality of its timbre, which is always subject to the comparison between dullness and brightness, or between harshness and softness.
> (Dolan, 2013, p. 58)

The French word *timbre* stems from an old French term that translates into English as *the sound of a bell* (Harper, 2001) and was used in this instance by Rousseau to suggest that the individual quality of a sound was based on colour (dullness and brightness) and density (harshness and softness).

The scientific revolution of the nineteenth century fostered a specific fascination with timbre that would have an ever-lasting impact on instrumental music. In 1837, Gustav Schilling's *Encyclopedia of all Music Sciences* (Schilling, 1837) was published. With regard to the quality of musical sounds, the German textbook introduced the term *klangfarbe*, (literally translating into English as *clang tint)* three times on pages 106, 113 and 126. Each reiteration refers to the quality of an instrumental or vocal tone:

> The timbre of the tone of the instrument is very similar to that of the Harmonica. The higher notes have something flageolet-like, the deeper ones a gentle, tender nerve often very touching.
> (Schilling & Fink, 1837, p. 113)

First scientific and psychological definitions of timbre/klangfarbe

In the first part of the 19th century physicists Cagniard de Latour, Savart, Willis and Seeback became fascinated with periodic soundwaves and "tone in its relation to the physical concept of frequency" (Kursell, 2013, p.194). Each attempted, on specific sound-generating equipment, to control the number of vibrations that occur in a specified length of time whilst measuring the impact of these changes on vibrational frequency, pitch and tone. These studies added further scientific reasoning to the acoustic investigations on flageolet tones, sympathetic frequencies and the work of Mersenne (Green, 1970). However, a scientific explanation for changes in timbral qualities of sound remained elusive.

In 1863 Hermann L.F. Helmholz published his seminal text *On the sensation of tone as a physiological basis for the theory of music* (Von Helmholtz, 1863). Helmholtz provided scientific evidence that "klangfarbe" becomes apparent when different instruments play the same compound tone but produce differing strengths and weaknesses in the upper partial tones. "Klangfarbe" was translated into the English language as *tone colour* by English phoneticist Alexander Ellis in 1885 (Dolan, 2013), and became a regular term in the musical vocabulary. As Charles MacLean surmises in his 1894 article *On some causes of the changes of tone colour proceeding in the most modern orchestra*:

> The term "tone colour" has come to this country [England] translated from the German, it is a word involving a metaphor, and it is just possible that twenty-five years ago it might have been resented by some as an affectation; but it is an accepted term of the enlarged musical diction of the present day. It conveniently expresses that total effect made on the ear by musical sounds, especially the collective sounds of the orchestra, which is dependent not on art structure proper but on the qualities and employment of the instruments which give interpretation to the art-idea.
> (MacLean, 1894, p. 177)

Concurrent to the work of Helmholtz was the influential work in the psychological field of Carl Stumpf. In 1883 Stumpf, often regarded as the forefather of musicology and founder of ethnomusicology, released *Tonpsychologie (Tonal Psychology)* (Stumpf, 1883). Stumpf, "emphasised the time-critical aspect of the new definition of sound" (Kursell, 2013, p. 192). Stumpf remained fascinated not only in the quality of sound, but an individual's ability to perceive sound sources when the attack and release of a sound was removed. It is here that research into phonetics and a person's perception of sound began to merge with perception of musical tone.

The impact of western musical instrument innovation

The nineteenth century also brought an influx of research into knowledge and the human condition, so it is of little surprise that the scientific need to define *tone colour* became a subject of both scientific and psychological fascination. Concurrent to this research was the technological advance of musical instruments that provided considerable improvements in intonation, chromatic capability, range and dynamic control.

The development of the Boehm system, at first for Flute and then applied to other woodwind instruments by Theobald Boehm (1794-1881) and the invention of the piston valve by Heinrich Stölzel (1777-1844) in 1815 dramatically altered the capability of many woodwind and brass instruments (Baines, 1991; MacLean, 1894). Additionally, new instruments were introduced to the orchestra, predominantly by French composer Hector Berlioz (Macdonald, 2002; Morgan, 2006). Such new-instrument additions included members of the saxophone family (as created by influential Belgian inventor Antonie-Joseph Adolphe Sax (1814-1894)), the Ophicleide and Serpent, Buccins and the sax-horn family (which includes the Euphonium and Tuba, the latter soon superseding the ophicleide as a bass orchestral instrument). These instruments provided additional tone colour and strength to the orchestra as did improvements to the string section including the addition of a fourth 'E' string to the Double Bass (Brun, 2000). Technological advances were coupled with resources designed to help musicians develop their playing capacity on the new instrumental systems. Whilst the creation of music tutors has been dated back to 1511 (Riley, 1958), the seminal works of Jean Baptiste

Arban, Hyacinthe Klosé and Henri Lazarus (to name but a few) helped to provide composers with ensembles populated with highly capable musicians on newly modified, and greatly improved, musical instruments.

Over time, this improved capability brought what are now known as extended techniques and these have had a continued effect on tone colour to the present day. These include (but are not restricted to):

- various types of brass mutes including straight, cup, harmon, plunger and bucket;
- scordatura, col legno, harmonics, the Bartok Pizzicato and micro-tonal extensions for string instruments;
- flutter tongue, slap-tongue multi-phonics, aeolian sounds, pitch-bend and alternative fingerings to create microtones for wind instruments;
- percussive sounds including key-clicks, tapping the instrument, various types of articulation that produce percussive-type sounds and body percussion.

Additionally, the extension of the percussion family from timpani, bass drum and cymbals to a wide range of pitched and non-pitched instruments has comprehensively altered timbral percussive possibilities for all composers.

Music and visual colour

Studies into music and visual colour/imagery are usually categorised into three main themes: colour and pitch, colour and harmony/key, and colour and timbre/tone colour. Since the time of Aristotle there has been a correlation between changes in musical pitch and colour (Jewanski, 2002). Isaac Newton's discovery of light diffraction and research into a colour spectrum (de Andrade Martins, 2001) launched an interest into a possible correlation between light and sound wavelengths. Such studies led to the creation of a colour Organ and a movement known as 'Colour Music' (Klein, 1926). In *colour music*, colours were linked to specific tones based on their wavelength. When music composed for the colour Organ was played, lights projected correlating colours to the pitch being played, creating what has been referred to as an early form of cinematics (Sebba, 1991).

Some composers claimed a strong association between key and visual colour, the most notable being Russian composer Alexander Scriabin (1871-1915). It is now believed that Scriabin could have been a synesthete who "did not see colours as individual tones, but as tonalities and chordal complexes" (Bowers & Aškenazy, 1974, p. 192):

> Skryabin's idea of tone-vision, … originally he recognised clearly no more than three colours-red, yellow, and blue, corresponding to C,(2) D, and F sharp respectively. The others he deduced … from the assumption that related keys correspond to related colours; that in the realm of colour the closest relationship coincides with proximity in the spectrum; and that as regards tonalities it is connected with the circle of fifths. (Sabaneev & Pring, 1929, p. 273)

The fascination between visual colour and music was predominantly born during the Romantic Era and other composers who cite relationships between colour and key/harmony include Berlioz (Rodgers, 2009), Liszt (Backus, 1988) Rimsky-Korsakov (Rimsky-Korsakov, 1923), and Debussy (DeVoto, 2003). In the twentieth century, French composer Olivier Messiaen would write visual colour references on his scores in direct relation to specific harmonies (Griffiths, 1978) and innovations in visual/audio technologies have given birth to new forms of music composition that fuse visual and sonic artforms, namely film scoring and gaming-music.

In addition to fascination between visual colour and specific tones/keys was the connection of *visual* colour and musical *tone colour*. Abstract artist Wassily Kandinsky (1866-1944) associated specific orchestral tone colours with spectral visual colours and wished to devise a formula that would dovetail them, "uncovering ... the spiritual origins of art" (Sebba, 1991, p. 81). However, Sabaneev's landmark article, *The relation between Sound and Colour* of 1929 revealed that people associate sound and colour in very different ways, and that it would be unproductive to lock down any kind of rule book regarding musical timbre and visual colour. Interestingly, Sabaneev repeatedly refers to the 'colour-ear':

> We know that a very long time ago there were persons, very often musicians, to whom sounds presented themselves as coloured, so to speak. Resonance evoked a colour association, and this was not a fortuitous happening but was repeated with the

> invariability of a law. Later on, of course, this phenomenon or … faculty, attracted a certain amount of attention amongst scholars, and the name of synopsy or colour-ear was bestowed upon it.
>
> (Sabaneev & Pring, 1929, p. 266)

Sabaneev later states that there is a "definite connection between a composer's talent for colour (orchestral or instrumental in general) and his aptitude for the colour-ear" (Sabaneev & Pring, 1929, p. 266).

More recent studies relating to audience perception of sound and colour now exist with regard to advertising, video gaming and social media. There is also a plethora of research into the impacts of synaesthesia and other psychological phenomena connecting sounds and visual colours. However, as this is a thesis investigating my own compositional association with tone colour, not visual colour, such research sits outside the limits of this study and will not be pursued further.

Orchestration, or composing with timbre?

Helmholtz and Stumpf have both provided significant scientific discoveries pertaining to timbre/tone colour and this illumination, alongside innovation in musical instrument technology and aforementioned research into visual and tone colour associations, all contributed to composer's fascinations with orchestral tone colour. Whilst there are many seminal orchestration texts, most are largely dedicated to descriptions of musical instruments including families, range, transposition, and dynamic changes that occurred as a result of instrument peculiarity. Authors acknowledge that each text has an expiry date and "When instrument combinations are described, the discussions are typically idiosyncratic rather than systematic." (Chon, Huron, & DeVlieger, 2018, p. 116)

Whilst these technical musical instrument aspects are required knowledge for any composer, it appears that some composers felt that the art of orchestration is something that is endemic to the composer, and cannot be learned from a text book (as Sabaneev stated, an "aptitude for the colour-ear"). As Richard Strauss succinctly stated it in his 1905 revision of Berlioz's *Treatise of Instrumentation*:

> I claim that a musician with talent for composition, who plays the violin or some wind instrument in an orchestra, will have more skill in instrumentation (without any knowledge of its theory) than the equally gifted pianist or music critic who has diligently studied textbooks, but has never come closer to orchestral instruments than the first row of a concert hall.
> R. Strauss (Berlioz & Strauss, 1985, p. BS1)

Rimsky-Korsakov stated something similar in his memoirs:

> It is a great mistake to say: this composer scores well, or, that composition is well orchestrated, for orchestration is part of the very soul of the work. A work is thought out in terms of the orchestra, certain tone colours being inseparable from it in the mind of its creator and native to it from the hour of its birth.
> (Rimsky-Korsakov, 1923, p. 120)

Additionally, Boulez stated that:

> … timbre, through composition, should integrate itself totally with musical language in a multidimensional world where its specificity will be the measure of its importance.
> (Boulez, 1987, p. 171)

Fundamentally, each of these composers identified an initial association between composing and tone colour or as quoted earlier from Boulez, “timbre and language”. A slightly alternate approach to using tone colour in the initial stages of compositional thought exists in Arnold Schoenberg’s concept of “Klangfarbenmelodie” (tone colour melody), which first appeared in “Harmonielehre” in 1911 (Schönberg, 1911; Cramer, 2002). “Klangfarbenmelodie” is defined by Willi Apel in the Harvard Dictionary of Music as:

> A term suggested by Schoenberg in his *Harmonielehre (1911, p. 470f)* in a discussion of the possibility of composing “melodically” with varying tone colours ...
> (Apel, 2003, p. 455)

Schoenberg's 'tone coloured' approach was highly influential on many serial composers, the most famous being Anton Webern (Kursell, 2013; Cramer, 2002; Lockspeiser, 1974; Apel, 2003). Schoenberg himself stated that:

> … I had thought of progressions of tone colours equalling harmonic progressions in terms of inner logic.
> (Schoenberg, 2006, p. 159)

It can be extrapolated from this comment, with regard to "inner logic", that tone colour played a fundamental role during the conceptualisation of Schoenberg's 12-tone theory and forged a new relationship between composer and tone colour in the twentieth century and beyond.

Additionally, the Helmholtz research into *klangfarbe* played an integral role in the development of French composer Edgard Varèse (1883-1965). Varèse first discovered Helmholtz in 1905. Helmholtz's research, that predominantly utilised sirens and resonators captivated Varèse's imagination, having a lasting impact on the composer's musical voice. The composer claimed that "Helmholtz was the first person to make me perceive music as being a mass of sounds evolving in space, rather than as an ordered series of notes (as I had been taught)." (Varése as cited in Lalitte, 2011, p. 328)

Varése concentrated his compositional career on the fusion of science and sound, focusing on timbral outcomes that were created as the result of scientific philosophy. Take this account of Varèse discussing his work *Amériques* to French composer Henri Barraud (1900-1997):

> Varèse explained his whole work as a succession of sound phenomena which he took apart for us by analysing the interferences provoked by a certain bringing together of timbres, certain agglomerations of sounds, calculating the raised frequencies added to the ensemble by the addition of such or such an instrument, by a cymbal and so on. (Barraud as cited in Lalitte, 2011, p. 366)

Whilst Varèse was clearly fascinated with sonic variations, was he composing with timbre or conducting scientific experiments that produced fascinating timbral outcomes? A paper presented in 2005 at the International Computer Music Conference investigated this question. Three British authors presented research regarding the compositional processes of four electro-acoustic composers (Upton, 2005). The composers were labelled A, B, C and D and Upton *et al* focused their findings on composers A and D, as they presented the broadest variation in their approach. Each of these composers had tertiary training in traditional instrumental composition but had since turned their interest to electro-acoustic music. The different approach taken by each composer when utilising timbre is noteworthy regarding the approach of Varèse:

> Composer A described his work as "acousmatic", which has an idiosyncratic aesthetic. The focus is on timbral aspects, and performance and medium is always a fixed format ... In contrast, D is more interested in technical and theoretical aspects of sound, rather than its aesthetic timbral qualities ... He [D] is concerned with the nature of sound, but perhaps focuses more on integral internal structures, and theoretical aspects of e/a composition.
> (Upton, 2005, p. 1)

The study goes on to reveal how composers' A and D initially treat *sound*. For composer A:

> He organises sounds through making value judgments, grouping them together and considering where in the framework of the piece each will work, before processing them ... In contrast [D] ... often works from a pitch basis, and ... sometimes uses timbral qualities of live instruments as a basis for the composition. D ... often takes a physical property of sound material as a basis for his composition, as opposed to the other subjects whose work seems more influenced by extra-musical aspects, even if they are at an abstract level (i.e. emotional, conceptual characteristics of the sound).
> (Upton, 2005, p. 2)

From this study we can draw similarities to the work of Edgard Varèse. Like composer D, Varèse investigated the "physical property of sound material" and worked from a pitch base.

Additionally, Varèse portrayed his musical realisations of scientific ideologies through the creation of pitch cells. However, he resisted the use of traditional terms melody and harmony to retain his focus on the musical application of scientific concepts:

> For linear, melodic usage he [Varèse] borrowed the geometric term *plane*. He resisted the term *chord* ... Instead he called his vertical structures "sound-masses" and evolved new ideas about how they interacted with one another.
> (Anderson, 1991, p. 35)

So, was Varèse composing with timbre? In some instances, yes. Like composer D, Varèse shaped "compositions through use of specific techniques and theories, and [refined] his music through intuitive aesthetic judgements" (Upton, 2005, p. 2). However, his was a different approach to that stated by Rimsky-Korsakov or composer A, where timbral considerations were inherently part of the composers self-expression. These composers, as composer A aptly stated, are "acousmatic" and focus on timbre from the very beginning of the creative process (whatever that may be). They then utilise external devices to shape their timbral expressions into musical forms (such as poetry, story-telling etc..). Alternatively, "composer D" and Varèse were inherently composing with scientific phenomena and pitch material, resulting in timbral experimentation. Whilst all of these composers were infatuated with timbre, some could be classified as 'colour-first' and others, as 'colour-experimenters'.

In direct contrast to composers such as Varèse who chose a compositional approach "contrary to one focused on the evolution of musical grammar" (Lalitte, 2011, p. 328), are the composers who dedicated their craft to thematic and harmonic development. One example (among many) is German composer Gustav Mahler (1860-1911). In a letter dated 12 April, 1896 to student composer Max Marschalk, Mahler advised against the consideration of tone colour during the initial stages of composition:

> What struck me most is the feature that you also emphasize in your letter: at present you are still going in very much for 'tone and colour!' This is the mistake made by all gifted beginners *now* composing. I could show you a similar phase in my own development. - *Mood*-music is dangerous ground.

> Believe me: we must for the time being keep to the good old principles. Themes - these must be clear and plastic, so that they can be clearly recognized at any stage of modification or development.
> (Mathews, 2006, p. 48)

Mahler's opposition to '*mood*-music' can be viewed here as demonstrating a point of difference for the 'colour first' composer; that a fascination with tone colour is neither weak or invaluable, it is simply a personal preference of the individual composer, perhaps inspired by early music experiences.

In each of the personal expressions of some of the most influential composers of the past two centuries, alongside Sabaneev's recognition of composers with a 'colour-ear' (Sabaneev & Pring, 1929), we found validating evidence for a 'colour-first' composer as *one who inherently composes with tone colour from the very beginning of the creative process*. With the marked reference to tone colour being considered in the initial stages of composition, it is proposed that a 'colour-first' composer coherently and fundamentally composes with specific tone colours in mind to express their musical thoughts. This is alternate to orchestration or scientific experimentation that is the act of colouring pre-constructed music for an instrumental ensemble or experimenting with tone colour in either instrumental or electro-acoustic environments.

Reviewing creativity and compositional process

With evidence to validate the delineation of a 'colour-first' composer, a review of research into compositional process and creativity was required to substantiate when timbral considerations were made. To maintain focus, the following question guided research into this vast and diverse domain:

> Is there any correlation between research into compositional processes and creativity that further validate the definition of a 'colour-first' composer?

To explore this question, a side-step into the world of psychology was required in order to demarcate which aspects of psychology were relevant to this study and what components (if any), required clarification. As stated earlier I am not a psychologist, hence research conducted in response to this question was limited to the most relevant areas of this study (i.e. elements of psychological research into creativity that have an association with research conducted into adult compositional processes). Suggestions for further study (in collaboration with experts in the field) are noted and encouraged.

Creativity

Since 1566 there have been literally thousands of studies into creativity (Rothenberg, 1976), and whilst this is not a literature review of such studies, it has been found that psychological research into creativity can be broadly divided into four domains: (1) Personality trait, (beginning with J. P. Guilford's creativity measurement devices (Feist, 1998) (2) Characteristics of innovation from the perspective of an observer (notable researchers include Bruner (Bruner, 1990), Barron (Barron, 1955) and Koestler (Koestler, 1964); (3) Problem-solving (notably the Gestalt position as devised by Wertheimer (Wertheimer, 1938) and, (4) Social Psychology, which focuses on "the importance of talents, education, cognitive skills, innate interest and personality dispositions, all functioning interactively to influence creative behaviour" (Amabile, 1983, p. 362). Additional pivotal research include studies into the creative capability and functionality of both adults and children. Notable adult studies that explore the impacts of nativism and constructivism on an individual's creative capability include the seminal work of psychologists Howard Gardner – Multiple Intelligence Theory (Gardner, 1982), Mihaly Csikszentmihalyi – Flow (Csikszentmihalyi, 1991) and David Henry Feldman – Non Universal Theory (Feldman, 1994). Australian academic Pamela Burnard (Burnard, 2012) and others have also conducted extensive research into the creative processes of children. Whilst many of these studies have been successfully applied to music pedagogy and other creative musical fields (such as improvisation and automated composition), a small proportion of the work directly addresses or incorporates the compositional processes adopted by adult composers. Hence, at this point of the study, only research that may further validate the proposed definition of a 'colour-first' composer was pursued; "trait" psychology (1) and social psychology (4).

With regard to “trait” psychology, there are two main areas that I identified (that are by no means comprehensive) that have been flagged as areas for further study. The first is to investigate psychological research into personality type indicators (such as the work of Myer and Briggs (Briggs, 1976)), and how these may impact compositional process and the consequential impact on timbral considerations. A second area of study to consider in the field of “trait” psychology regards intuition. Intuition, defined by Raidl and Lubart as a “perceptual process” that is shaped through the subconscious linking of disparate events (Raidl & Lubart, 2001, p. 219), could impact a composer’s problem solving capability. Life events including people, environments and memories may all play a role here. Hence, a qualitative study into life experiences that inform a composer’s intuition and the impact intuitive-based problem solving has on creative thought processes could further delineate aspects of a ‘colour-first’ composer. Whilst such investigations may deepen understanding of the inner workings of a ‘colour-first’ composer, this is an autoethnographical compositional exegesis and not a psychological study hence, no further review into these “trait” psychology aspects of creativity will be continued at this time.

The second domain that demonstrated relevancy to this study lay in the field of social psychology. A relatively early and influential study in social psychology was conducted by Teresa Amabile in 1982. Amabile’s Componential conceptualisation of creativity engages three components of creative performance (Amabile, 1983). Amabile refers to creativity as a performance activity as in her study, creativity is defined as “the production of responses or works that are reliably assessed as creative by appropriate judges” (Amabile, 1983, p. 362). In other words, there is an audience that assesses the creativity of the work (just as there is for a composer).

Amabile divided her proposed componential stages of creativity into three sets (see table 2-1):

1. Domain-Relevant Skills	2. Creativity-Relevant Skills	3. Task Motivation
Includes: • Knowledge about the domain • Technical skills required • Special domain-relevant "talent" Depends on: • Innate cognitive abilities • Innate perceptual and motor skills • Formal and Informal education	Includes: • Appropriate cognitive style • Implicit or explicit knowledge of heuristics for generating novel ideas • Conducive work style Depends on: • Training • Experience in idea generation • Personality characteristics	Includes: • Attitudes toward the task • Perceptions of own motivation for undertaking the task Depends on: • Initial level of intrinsic motivation toward the task • Presence or absence of salient extrinsic constraints in the social environment • Individual ability to cognitively minimize extrinsic constraints

Table 2-1 - Componential conceptualisation of creativity

(Amabile, 1983, p. 362)

In view of this study focusing on the initial stages of creative thinking, it is relevant to focus on the first component "Domain-Relevant Skills". Amabile identified *Domain-Relevant Skills* as "the basis from which any performance must proceed" (Amabile, 1983, p. 362). She also stated that it is during this phase of creative performance that "a composer's ability to hear in imagination all the instruments playing together" (Amabile, 1983, p. 363) may occur. Whilst Amabile attributed this to a "*talent",* she also proposed that this talent is "innate".

In consideration that the definition of a 'colour-first' composer is one who *inherently* composes with tone colour from the very beginning of the creative process, the Amabile study provided the opportunity to focus on the term "inherent". "Inherent" is defined in the Oxford online dictionary as "a basic or permanent part of somebody/something .. that cannot be removed" (Dictionary, 2004). In considering the proposed 'colour-first' fusion between timbre and creativity, it is here that previous studies into vision and colour become relevant. Scriabin's synaesthesia guided his compositional process through his innate correlation between key and colour. The artist Kandinsky was driven to create a formula that would connect visual colour and music constituting "a sort of uncovering of the spiritual origins of art" (Sebba, 1991, p. 81). In addition, Schoenberg expressed moments of "inner logic" and Varèse's fascination with Helmholtz's theories were an inherent aspect of his compositional

approach. Each of these accounts highlights Amabile's Domain-Relevant Skills of "innate cognitive abilities" that are realised through "knowledge about the domain" and "technical skills". In other words, the *inherent* aspects of a composer, combined with domain-relevant skills, do indeed impact on a composer's initial thought processes. The support offered the notion of a 'colour-first' composer by Amabile's *componential conceptualisation of creativity* inspired further investigations into social psychology, particularly regarding compositional process.

The compositional process

Social-psychological studies that capture "the thought, feeling, and behaviour of individuals" as shaped by the "actual, imagined, or implied presence of others" (Jones, 1998, p. 3) piece together a composer's creative approach by reviewing personality traits, family history, personal journals and musical sketches. Personal accounts of the composer from friends/family and/or colleagues, biographical details, influential teachers and sketching methodology all provide clues. The clues help formulate a composer's convergent and divergent thought processes that may or may not stem from subconscious and conscious thinking and the impact these have on their music.

The most traditional social-psychological/musicological approach to revealing a composer's approach has been to retrospectively review the diaries, sketches and sometimes, letters of composers, estimating from these the composer's approach to a particular work or set of works. However, there are limitations to 'sketch study' as described by Nicolas Donin in the 2016 text, *The Act of Musical Composition: Studies in the Creative Process*:

> These reconstructions, being almost exclusively based on archived collections containing the material traces of a composer's activity, seldom, if ever, include commentary from the composer or any other real-time-generated data.
> (Collins, 2016, p. 1)

Such studies usually focus on the development of musical ideas and only investigate the development of a composer's work based on musical sketches. These have been deemed

irrelevant due to the autoethnographical nature of this thesis that investigates the impact of music education, familial influences, personality and instruments played on my own compositional approach, and the role these sociological influences play on my 'colour-first' ideology.

One notable social-psychological study into compositional approach that revealed initial processes is the 1947 text *From Beethoven to Shostakovich: The Psychology of the Composing Process* by Austrian music critic Max Graf (1873-1958). Graf's verbose and romantic deliberations considered the subconscious and conscious acts of creativity, including the impact of a composer's life events and personality on compositional process:

> Only the most perfect organization of all conscious and subconscious part-forces of the mind; harmonic collaboration of inherited traits, experiences and sentiments, memories and instincts, emotions and conscious thought, and extremely strong organizing power of personality can produce musical works of art.
> (Graf, 2013, p. 61)

To formulate a four-stage model of composition, Graf diligently reviewed composers' writings and comments by spouses/friends about their habits and personality traits. He also quoted personal interactions with composers (where possible), and reviewed composer sketching methodology. The result was the following (see table 2-2):

Productive Mood	*Musical conception*	*Sketching, selection & organisation*	*Composition*
Everything that had accumulated in the subconscious in the way of tone forms presses toward the borders of unconsciousness and conscious soul life. Up to this moment of agitation and tension, the entire musical work had taken place in the darkness of the subconscious. So far nothing was controlled by conscious thinking. (Graf, 2013, p. 196)	*The moment in which unconscious music figures break through and are seized by conscious activity of the composer's mind—that moment is called: musical conception. ... The more this process nears completion, the stronger becomes the part of conscious thinking in the musical creation, until critical thinking alone puts the finishing touches to the tone figures. (Graf, 2013, p. 218)*	*Uniformly organizing forces are effective behind all musical thoughts which, at the moment of musical conception, appear on the walls separating the unconscious from the conscious. .. They direct the musical thoughts to their proper place. .. Without this organizing uniformity art production cannot be created. (Graf, 2013, p. 234)*	*Actual composition work is accomplished in a regulated coordination of unconscious forming and critical thinking, of inspiration and work. This harmony of the creative forces is the most difficult part of compositorial work. It may be disturbed at any moment, and requires an uninterrupted balance of the conscious and unconscious faculties. (Graf, 2013, p. 265)*

Table 2-2 – Psychology of the Composing Process by Max Graf 1947

Graf's findings correlate with one of the most cited models for creativity devised by British social psychologist Graham Wallas. In his 1926 text *The Art of Thought*, Wallas proposed a creative process model that was largely inspired by the personal accounts of creative thought processes by Helmholtz (1821-1894) and Poincaré (1854-1912). Wallas' research resulted in the creation of a *Four-stage Model of the Creative Process* (Wallas, 1926):

Preparation	Incubation	Illumination	Verification
"the stage during which the problem was investigated in all directions" (Wallas, 1926, p.80)	*"the stage during which he was not consciously thinking about the problem" (Wallas, 1926, p.80)*	*"the appearance of the 'happy idea' together with the psychological events which immediately preceded and accompanied that appearance" (Wallas, 1926, p. 80)*	*"both the validity of the idea was tested, and the idea was reduced to exact form" (Wallas, 1926, p. 81)*

Table 2-3 – *Four-stage Model of the Creative Process* by Graham Wallas 1926

The Wallas model 'still holds sway as a conceptual anchor for many creativity researchers' (Sadler-Smith, 2015, p. 342) and can easily be aligned to Graf's composition model that appeared 21 years later.

Connecting the 'germinal idea' with timbral outcomes

Developmental psychologist Professor Stan Bennett expanded on the work of Max Graf almost 30 years later in the article *The Process of Musical Creation: interviews with eight composers* (Bennett, 1976). Graf's work was, for the most part, conducted retrospectively. However, Bennett combined Graf's conjectures with a qualitative study of eight living composers. Bennett made adjustments to Graf's model by:

> ...shifting the focus from feelings (productive mood) and thoughts (musical conception) as categories to the writing process itself (i.e., sketches and drafts). He suggested that composing involves a process of discovering a germinal idea (preparation), a brief sketch (incubation), elaboration and refinement of a first draft (illumination), and revisions to a final copy (verification).
> (Andrews, 2004, p. 3)

Both studies by Graf and Bennett featured the concept of *subconsciously* preparing for a composition and indicate that a composer's musical instrument and other social influences may affect the original germination of a musical idea. The concept of having a subconscious stage to composition, one that exists before any notes are written, alludes to Schoenberg's reference to conceiving *klangfarbenmelodie* through "inner logic" and Rimsky-Korsakov's claim that tone colour is conceptual to the composer from the "hour of its birth". Additionally, Sabaneev's claim that some composers possess the "colour-ear" and that this impacts on their tone colour expressions all point towards a collection of composers whose subconscious thoughts control the initial, conceptual stage of their compositional process. In this case, those thoughts are infused with a "talent for colour (orchestral or instrumental in general)" (Sabaneev & Pring, 1929, p. 266). That said, I openly acknowledge that the psychological field pertaining to the study of the subconscious/unconscious mind is both vast and divergent. Hence, in the effort to maintain this study as one that investigates my compositional approach as a self-defined 'colour-first' composer, only the impact of familial and early music influences will be investigated. Further investigations into the subconscious mind of a 'colour-first' composer and the impact of intuitive thought processes, may reveal how timbral

considerations are ultimately formulated. However, this is a study for a learned psychologist, and not a composer.

In terms of early music influences, Bennett's study proposed that a composer's early compositional experiences (dating back to their first ever composition), had an everlasting impact on their compositional language:

> The germinal idea may take a variety of forms - a melodic theme, a rhythm, a chord progression, a texture, a "kind of sound", or a total picture of the work. The germinal idea associated with the first composition seems to be related to learning to play some musical instrument. Along with this internalized "cognitive map" of some musical instrument, many composers develop or are born with rich tonal fantasy.
> (Bennett, 1976, p. 7, quotation marks paraphrased from Torrance, 1969)

The idea that the musical instrument played had an impact on the formulation of early compositional processes is openly acknowledged by many composers. Pulitzer prize composer Joseph Schwantner (1943-present) first played the guitar, and in an interview conducted in 2000, described the continued impact this instrument has on his compositional voice:

> I didn't realize until many years later just how important the guitar was in my thinking. . . . to get to the bottom line, when I think about my music, it's absolutely clear to me the profound influence of the guitar in my music. When you look at my pieces, first of all is the preoccupation with color. The guitar is a wonderfully resonant and colorful instrument. Secondly, the guitar is a very highly articulate instrument. You don't bow it; you pluck it and so the notes are very incisive. My musical ideas, the world I seem to inhabit, is highly articulate. Lots of percussion where everything is sharply etched, and then finally, those sharply articulated ideas often hang in the air, which is exactly what happens when you play an E major chord on the guitar.
> (Schwantner in interview with Popejoy, 2000, p. 10)

Boulez also referred to the impact of a composer's music education and how this affects their relationship with timbre:

> To understand the extent to which timbre, composition and affectivity are linked in the mind of the composer, one only needs to look at the musical education he has received, and which he himself transmits. Instrumentation is not learned by a systematic study of timbre, but by picking out here and there examples, chosen as models, which work particularly well.
> (Boulez, 1987, p. 162)

These quotes from Schwantner and Boulez provide evidence that the *germinal idea*, the initial thoughts that guide the evolution of a musical composition stem from early music experiences. But what happens when you don't have many early music experiences and do some people have a tendency towards tone colour from the very beginning?

In 1997, Folkestad, Lindström and Hargreaves conducted a study into the compositional process of teenagers, a computer being the centralised music making device. The results formulated a compositional model based on horizontal and vertical structures:

HORIZONTAL COMPOSITION			**VERTICAL COMPOSITION**		
Horizontal 1		Horizontal 2	Vertical 1		Vertical 2
1a Composing at an instrument – arranging in front of a computer	1b Composing at an acoustic instrument – using the computer as co-musicians	Horizontal composition element by element in front of the computer	1a Vertical composition section by section	1b Vertical composition, as sound composition (Soundscape)	Vertical composition, starting by defining the orchestra

Table 2-4 – Horizontal and Vertical Composition

(Göran Folkestad, Lindström, & Hargreaves, 1997, p. 6)

When viewing these compositional structures, what struck me instantly was their pronounced alignment to my own personal approach. What is additionally striking here is the reference to timbre/tone colour in the initial stages of composition, particularly in relation to categories that I directly identify with. Regarding vertical composition structures:

> The vertical way of thinking is shown by the way instrument structure is defined at an early stage for each phase (Vertical 1), or from the very start regarding the entire composition (Vertical 2). As a conclusion of this, composition and arrangement/instrumentation are conceived as one integrated process within the vertical strategies.
> (Göran Folkestad et al., 1997, p. 5)

Vertical 1b was identified as compositions that were centralised on a 'tonal picture' where,

> .. composing and arranging make up a kind of linearity .. in which sounds and sections can be placed and mixed in any way.
> (Göran Folkestad et al., 1997, pp. 5-6)

My identification with the juvenile compositional practises revealed in the Folkestad *et al* study reinforces Bennett's claims that early composition experiences have an enduring influence on adult composition. That said, whilst the Folkestad *et al* model revealed the early entry of tone colour, it is a study of novice composers in a controlled environment, composing on one medium (a computer). The writers also acknowledged the limitation of novice compositional studies:

> … when studying novices who have not yet found their identity as creators ... [they are] more easily affected by the presences of another person, especially if that person is regarded as an expert in the field.
> (Göran Folkestad et al., 1997, p. 2)

Additionally, the horizontal and vertical structures acknowledge compositional process that occurred after the initial subconscious stage referred to by Wallas and Graf. The Folkestad

model acknowledged the early influences of tone colour on juvenile subjects during the writing stage of composition; however, it does not review innate tendencies, music education environments or initial creative processes that inspired timbral considerations.

In conclusion

In view of the question posed with regard to research into this vast field of enquiry (i.e. Is there any correlation between research into compositional processes and creativity that further validate the definition of a 'colour-first' composer?), there *is* some correlation that further authenticates the definition of a 'colour-first' composer.

Wallas, Graf and Bennett's acknowledgement of a preliminary conceptual stage of composition fostered additional support for the concept of a 'colour-first' composer as *one who inherently composes with tone colour from the very beginning of the creative process*. Each study acknowledged the importance of the preliminary stage and how this feeds what Helmhotz referred to as a "happy idea" (Helmholtz, Cahan, & Williams, 1995, p. 389):

Wallas: **Preparation**	**Graf:** **Productive Mood**	**Bennett:** **Germinal idea**
"the stage during which the problem was investigated in all directions" *(Wallas, 1926, p. 80)*	*Everything that had accumulated in the subconscious in the way of tone forms presses toward the borders of unconsciousness and conscious soul life. Up to this moment of agitation and tension, the entire musical work had taken place in the darkness of the subconscious. So far nothing was controlled by conscious thinking.* *(Graf, 2013, p. 196)*	*The initial phase involves the crucial step of getting what may be called the germinal idea, variously termed the "germ," the "kernel," the "inspiration," or the "idea." Once the germinal idea has been found, the composer may simply let it run around in his head for a while. Sometimes the germinal idea is played over and over on some musical instrument, but more frequently it is written down.* *(Bennett, 1976, p. 7)*

Table 2-5 – Comparing the first creative stages of Wallas, Graf and Bennett

It is proposed here that a correlation does exist between inherent timbral considerations from the beginning of the compositional process and the preliminary stages of composition as detailed by Wallas (preparation), and Graf (Productive Mood). The correlation continued

through to the formulation of the “happy thought” (Helmholtz) or “germinal idea” (Bennett) and remained inextricably fused to all remaining musical conceptions, be they conscious or subconscious, throughout the compositional process.

To be a ‘colour-first’ composer is to have an innate tendency towards musical self-expression through specific tone colours. Using myself as a model, I further investigated the influences and processes of a colour-first composer utilising the *Dimensions of Music Composition* model created by Bernard W. Andrews (Andrews, 2004). Familial and pedagogical influences, plus career limitations for an Australian composer provided invaluable insight into the choice of wind band as a preferred medium. The investigation of works created for the wind band as part of this PhD portfolio include a focus on the ‘colour-first’ approach and link early influences to their development and creation.

Chapter 3
Early influences: building a career as a colourful, Australian wind band composer.

As established in Chapter Two, a 'colour-first' composer is one who inherently possesses timbral considerations from the very beginning of the compositional process. Whilst it is possible that a composer's fascination with tone colour is innate, what is the impact of familial and pedagogical experiences on the development of such a fascination, and have geographical locations and career opportunities had any impact? To frame this autobiographical study, the 2004 Andrews P4 model for questioning composers was adopted. Whilst Andrews' twenty questions have not been answered individually, their content assisted in drawing links between biographical events and compositional practice associated with a 'colour-first' approach.

Andrews P4 model

In 2004 Bernard Andrews investigated studies into how composers compose in order to devise a set of questions that embraced all dimensions of music composition. Whilst these questions had a pedagogical purpose that hoped to provide "a foundational basis for understanding musical creativity and assisting teachers to foster music composition in their classrooms" (Andrews, 2004, p. 3), the model also aspired to acquire an "in-depth understanding of musical creativity" (Andrews, 2004, p. 7) . Andrews' outcomes were based on research into the creative and compositional process cited in Chapter Two including Wallas (Wallas, 1926), Graf (Graf, 2013) and Bennett (Bennett, 1976), as well as qualitative studies into compositional process, creativity and music education, and gender equity. Based on his research, Andrews developed a set of questions that was then sent to six Canadian composers

in the mid-late stage of their career (ranging in age from 32-87 years). Each composer provided feedback and suggestions. The same process was repeated with six experienced educators and then, the refined questions were sent to six internationally based researchers who had published papers on creativity and/or music composition. Appraisals made from all parties were analysed in order to create a refined set of twenty questions on how composers compose.

From here, the twenty questions were placed into four sets of "questions on music composition" (Andrews, 2004, p. 5) that identified the multifaceted influences on a composer's process, the strategies they employed and a review of the final product. Andrews named his questioning approach the 'P4' model as each of the four sets of questions was given a subheading that began with the letter 'p': Person, Pre-requisites, Process and Product (see table 3-1).

Table 3-1 – Andrews' Dimensions of Music Composition

(Andrews, 2004)

Each of these facets of music composition and their relationship to my 'colour-first' approach are explored throughout the remainder of this thesis. The remainder of this chapter is

dedicated to associating compositional characteristics and a pre-disposition for tone colour with familial, professional and pedagogical influences.

The Person: familial influences

I was born in Collingullie, a little town just outside of Wagga Wagga, New South Wales, Australia and was the youngest child in a family of five. My father was the school principal of the local public primary school. He was an educated man, an inspirational educator and was passionate about cricket, Australian rules football and music. As music was valued by my father, from a very early age I often listened to records for my own amusement. I would happily listen and sing along to various nursery rhymes, Prokofiev's *Peter and the Wolf* (this particular record was the 1960 Herbert Van Karajan recording with the Philharmonia Orchestra, Peter Ustinov narrating) as well as melodic and rhythmic readings of A. A. Milne. *Peter and the Wolf* was an all-time favourite and I have often wondered if my fascination for tone colour stemmed from (or was amplified by) listening to this recording over and over. I can still see the record cover, with pictures of the characters, and alongside them, the instrument that played their theme.

My paternal grandmother was the main reason my father had such a good music education. She herself a gifted teacher, was also a musician and directed many school choirs with great success. Both my grandmother and father are now passed over but their fervency for teaching and music has been firmly instilled in me. I accredit these familial influences to my own passion for creating quality educational experiences for children through music.

Early experiences and formative development

In the 'Person' component of the Andrews line of questioning (Andrews, 2004), the impact of early experiences on the development of a composer's voice was highlighted. With regard to my own early experiences, outside of listening to music, my first engagement with music was to learn an instrument. At the age of five I started learning how to play the Organ. It was a dual keyboard Yamaha *Electone* B405 Organ with an octave of pedals, multiple drum beats and analogue tones for both upper and lower keyboards that were activated by sliding toggles. I loved playing the Organ for many reasons, but mostly because I could slip on a pair of

headphones and disappear into my own world. I could experiment with the assortment of tone colours and drum beats, often experimenting with timbral blends rather than completing homework tasks. Not all teachers encouraged the exploration of the instrument, but my teacher did. Her name was Vicki Foster. She would come to our house for lessons and most of all I remember her laugh and big smile. Each lesson was fun yet offered new challenges. The years of lessons exist in my memory as a highly positive experience that enabled me to explore musical ideas whilst developing performance skills. More importantly, learning to play the Organ with Vicki generated a resilient link between love and music.

After several years with Vicki and a short break from playing the Organ, I changed teachers and began learning from Lois Johnson. Lois was a highly skilled organist and played on a custom-built machine with three keyboards, two octaves of pedals and multiple timbre-changing toggles. Personality wise, Lois could not have been more different to Vicki. She was closed and quiet. However, I enjoyed lessons with Lois as much, if not more.

Lessons with Lois changed my focus from the teacher to the music itself. With Vicki, I maintained interest because of her genuine interest in me as a person. The music was a side-effect. With Lois, curiosity was generated by the music itself and through this, my performance capability dramatically improved. Lois introduced me to a wide range of challenging repertoire along with extended knowledge in building chords. Complex harmonies were used employing both hands as well as a foot pedal bass line, sometimes engaging both feet. Around the same time I started learning with Lois, my parents purchased a superior instrument that contained additional rhythmic and tone colour options. It was here that I was introduced to voicing, harmonic inversion and the musical impact of timbral and rhythmic variation. With Lois, I was playing works by George Gershwin, Cole Porter as well as selections from salsa, jazz and rhythm and blues genres.

Such repertoire, and the introduction to classical composers such as Mozart, Beethoven, Schubert, Berlioz and Delius by my father, informed my juvenile composition processes. Lois encouraged my exploration of composition and when I wasn't composing my own music, upon reflection I realise that I was composing with tone colour through the arrangement of songs

and classical melodies. With Lois, I grew from being a child who played an instrument because she loved her teacher, into a young musician who was developing a passion for tone colour and extended harmonies through performance and arranging.

To this day I have underestimated the impact of the Yamaha Electone on my compositional process, yet it is now very clear that these early explorations impact my compositional focus on tone colour. Bennett proposed that a composer's first compositional experiences could have an ever-lasting influence on their approach:

> The germinal idea associated with the first composition seems to be related to learning to play some musical instrument. Along with this internalized "cognitive map" of some musical instrument, many composers develop or are born with rich tonal fantasy. (Bennett, 1976, p. 7)

I affirm this claim. I now recognise that during my process, once I have formulated the purpose of a composition and researched external influences, the first place I turn to unearth associated pitch material is a keyboard. Not a Piano, but a Korg Music Wavestation with multiple tone colours. It is vital that the tone colour I select from the outset aligns with my creative vision; if it doesn't, the material doesn't flow. That said, the tone colour is not necessarily matched to the instrument that will eventually play the music; at first what is imperative is the link between the tone colour of the keyboard and the emotional intent.

A varied music education

When I was in Year 5 (1981) my family moved just 16 kms from the small hamlet of Yenda into the township of Griffith, New South Wales. In the same year, a local Mathematics teacher by the name of Garry Bell began a youth concert band program for local school students. Mr Bell played Cornet in the local town band and identified the need for an instrumental program in our remote community. After trying a couple of different instruments (Tenor horn in 1981 and Cornet in 1982), I settled on the Clarinet in my first year of high school (1983). There were no instrumental teachers in the area and students relied on learning instruments from the 'A tune a day' series (Herfurth, 1942), as well as band methods. Most of the students in the program

attended public schools and were fortunate that the New South Wales (NSW) Department of Education hosted annual instrumental music camps. The Borambola Music Camp, held just outside Wagga Wagga NSW, was a week-long annual highlight and provided the opportunity for Griffith students to learn from skilled music tutors. Through this camp, the NSW Public School State Music Camp and the Sydney-based Pan Pacific Music Camp, I was introduced to more refined wind band repertoire including orchestral transcriptions and the works of Percy Grainger. Some of the wind band repertoire matched my passion for tone colour as well as newfound interests in harmony and popular twentieth century cultivars fostered by Lois Johnson. I particularly remember performing the work "Dreams of a Psychopath" by Mike Francis (composed 1975) at a Pan Pacific Music Camp (1986) and being fascinated by the variation of colour and use of percussion. Together these influences cultivated a deep-seeded passion for making music in instrumental music ensembles.

The penchant for composition I developed whilst playing the Organ soon metamorphosised into other instruments. I began writing small pieces for friends in the local town youth band, always experimenting and learning through investigation. In my final year of high school, I wrote a piece for concert band as part of my higher school certificate music studies. The piece was called "I had to do it" and stylistically, reflected the popular culture I had been exposed to during my formative years. I interviewed friends who played different instruments to find out various particulars, such as range and capability. The Band Director, Mr Gary Bell, helped me prepare the work for performance and a local high school music teacher, Mr Noel Annett, guided the compositional process. He was a recent graduate of the Sydney Conservatorium of Music with a vested interest in composition and twentieth century music.

In addition, I studied music by correspondence in Years 11 and 12 for the Higher School Certificate and was fortunate to work with a gifted music educator, Ms. Helen Bailey-Cook. In the early days of Year 11, Helen sparked an interest in twentieth century music and then proceeded to send additional scores and recordings of contemporary art music for me to listen to. This fostered a love for composers such as Messiaen, de Falla, Sculthorpe and Penderecki. I particularly remember studying Berlioz's *Symphonie Fantastique* and being enamoured by his use of the *col legno* technique in the fourth movement. This is a very strong memory. I

wasn't fascinated by Berlioz's harmonic voice or melodic development; however, what captivated me was his use of differing orchestral tone colours and extended techniques, and how well they linked to the emotional intent of the programmatic narrative.

In 1986 I met Clarinet teacher Mark Walton at a Pan Pacific Music Camp in Sydney and commenced Clarinet lessons via correspondence. Mark's joyous personality was infectious and his passion for assisting students in remote regional centres exists to this very day. It was the 'I had to do it' composition, my improved performance skills and knowledge of twentieth century music that helped me gain entry into the Bachelor of Music (Composition) degree at the Australian National University and embark on a rewarding yet challenging career in music composition.

One of the main questions posed by Andrews in his *How composers compose* article that influenced this chapter's biographical exploration was "What early experiences facilitate a composer's musical creativity" (Andrews, 2004, p. 7). I now realise that Prokofiev's *Peter and the Wolf*, Berlioz's *Symphonie Fantastique*, Messiaen's *Des Canyons aux étoiles…* and Sculthorpe's *Sun Music III* were all introduced to me from an early age and remain to this day a source of fascination and joy. I see now that the works have had this effect because they each exhibit a non-conventional use of tone colour. The ongoing impact on my compositional voice is quite profound. Now, it is clear that timbre is the focus of my compositional expression. It is directly connected to the purpose of the composition – be it emotional, linked to poetry, a painting, or portraying some kind of phenomena. For me, pitch material, whilst important, is used as a vehicle to express my emotional connections to external material through timbre. I believe this expression stems not only from an innate fascination with tone colour, but also through years of playing with tone colours on the Organ and being introduced to other composers who may or may not be deemed, 'colour-first'.

Inherently using timbre as a compositional (and teaching) tool

During my undergraduate degree, I did not write any music for wind band. The degree asked for a portfolio of works each year and the option to write for this ensemble was never offered, nor was there an ensemble of this type at the school. Instead, the degree focused on writing

for a wide range of mediums including vocal, instrumental (small ensemble) and electro-acoustic music. Through these mediums I learned different approaches to composition from Australian-Russian composer Larry Sitsky and Australian electro-acoustic composer David Worrall. Both composers were focused on the development of the unique voice within the artist, neither utilising 'write in the style of' methods as part of their pedagogy. They encouraged students to write through exploration and both encouraged the utilisation of external material to inspire musical ideas. Self-discovery was cultivated through the application of alternate compositional approaches, as well as the study of a wide range of twentieth century composers and their repertoire. Composers studied included Harry Partch (1901-1974), Roberto Gerhard (1896-1970), Alan Hovhaness (1911-2000), Karlheinz Stockhausen (1928-2007), Luciano Berio (1925-2003), Luigi Nono (1924-1990), John Cage (1912-1992), George Crumb (1929-present) and the Australian avant-garde group, the 'Machine for Making Sense' (https://www.australianmusiccentre.com.au/artist/machine-for-making-sense accessed August 14, 2019).

The most influential aspect of the undergraduate study on my development as a composer was a subject called *Composition Seminar*. In this subject, each composition student (of which there were only ever about 10), prepared four presentations: a biographical study, the analysis of a work, the review of an aspect of composition (such as music analysis techniques) and an 'own choice'. Two presentations were given each week. Additionally, we also had guest artists visit and talk about their process and their music. The healthy and vibrant discussions that occurred each week, as well as the journaling of our impressions after each seminar, had a profound and far-reaching impact on my conceptions of composition. I particularly remember arguing against Rimsky-Korsakov's re-orchestration of Mussorgsky's *Boris Gudonov*, stating that the re-orchestration no longer reflected the emotional intent of Mussorgsky. It seems my connection to tone colour as a means of expression were evident, even in my undergraduate years.

The compositions I created during the undergraduate years explored a range of processes including experiments with notation, analogue/digital and live/pre-recorded electro-acoustics, as well as a range of vocal and instrumental combinations. Whilst I completed all

tasks, I heard very few of my pieces. Strong connections were made between my formative years of composing on the Organ and composing electro-acoustic music in the studio. I was particularly fascinated by the manipulation of sampled sounds and in my third year (of a four-year degree), I composed a piece for saxophone quartet and live electro-acoustics. The piece, entitled *Sonic Dye*, sampled all four saxophonists playing excerpts from the Charlie Parker omnibook (Parker & Aebersold, 1978). These samples were manipulated then played live using a program created by electro-acoustic composer David Worrall called *Streamer* (created 1990-92). The quartet players moved around the room and between them and the samples, audience members experienced a constantly changing fusion of tone colours, often being confused by where the sounds were originating from. I would have loved to continue to explore my passion for electro-acoustic music, but once I finished the degree there was no opportunity to access the studio and my skills were soon lost to obsolete equipment.

The impact of limited career opportunities for Australian composers on the formative development of their compositional voice

Interestingly, one of the most poignant questions in the 'person' component of the Andrews study relates to the "impact of age, gender and cultural background on the formative development and career progression of composer?" I hadn't considered until now (2017-2019), the possible implications of my gender impacting on my career prospects. Whether it did or it did not, I was (and still am) passionate about providing opportunities for rural students and I believe that vocational opportunity, post the undergraduate degree, steered me into writing for wind band:

> … it is important to note that most composers work in more than one medium, and their media of choice hinges upon many variables. Among these are the preferred tonal palette, subject matter, personnel availability, financial responsibility and availability of rehearsal space and time.
> (Campo, 2007, p. 42)

David Campo's succinct summation of a composer and their chosen medium comes from his thesis into the development of wind band repertoire, in a section where he identifies the birth

of the wind band composer. I include it here because it provides a valuable perspective on how I began writing for wind band: personnel availability.

Once I completed my undergraduate degree, I no longer had access to an electro-acoustic studio, and whilst I simultaneously developed a love for instrumental music and theatre, neither platform was readily accessible to me. I was now faced with the prospect of making my own way in the world with a Bachelor of Music (Composition) qualification. There were no ready-made jobs to step into, yet somehow, I had to earn my way in the world. It is here that my interest in the wind band returned, born out of practicality and familiarity.

I had been teaching keyboard and Clarinet throughout my undergraduate degree, hence continuing in this vocation was a natural choice. During the early years of my career (post-degree) I created many works for children. Such works were influenced by who I was teaching, the instrument they were playing and their performance capability. I became completely student focused, engrossed in student capability and personal interests. I also fostered creativity among my students, collecting more than 100 original compositions by children over the next six years.

My full-time teaching career began in Deniliquin, New South Wales in 1993, the year after I completed my undergraduate degree. Deniliquin is a small town situated in the South-West of New South Wales with a population of approximately 7000. I was drawn to it for both personal and professional reasons. I started my own teaching practice in Deniliquin and stretched my practice to reach students in the remote towns of Hay, Balranald, Finley and Barham. I did this in the hope of providing teenagers with the same opportunity that I had been given in my formative years. These opportunities were conjured through creativity, ensemble playing, live-in camps and one-on-one lessons. I regularly travelled up to 1000 kilometres a week to teach my students and built a practice from three to over 120 students in a three-year period. Like my teachers Vicki Foster and Mark Walton, I was captivated by my students and generated a love of music making through social and performance-based platforms.

Each student had their own story to tell and I became infatuated with releasing that story through music. The exhuming process validated the music making experience for my students, transforming it into something deeply personal. From very early in my career I realised that creating polished musical performances were not what motivated the child (in some cases it did, but not in most). What *was* important, was the opportunity for personal investment and self-expression in an emotionally safe context.

What is interesting to me now is that during those formative years in Deniliquin, my penchant for tone colour was matched with my passion for my students. In terms of Andrews' line of questioning, this is where enquiry into a composer's motivation to write new music develops a new meaning. In my undergraduate years, I was exploring the act of music making and was motivated to create works that explored new territory. However, my focus changed during my time in Deniliquin and composing became an educationally-centred tool. Not only was I motivated to write music that would please my students, I also wanted the pieces to be playable but challenging, entertaining but opening new perspectives, and relevant to a wide audience. Initially, the works I created were for Clarinets and saxophones as these were the instrumentalists most available. I wrote literally dozens of works for this style of woodwind ensemble (later adding Flutes), and it is here that the fusion of compositional process with pedagogical outcomes for ensemble-based repertoire was formed. When I moved to Sydney in 1996, I started conducting ensembles with more varied instrumentation and during my tenure as Band Director at Mackeller Girls High School (situated on the Northern Beaches), I formed a *Contemporary Wind Ensemble*. This ensemble was created to extend the more gifted students and as a result, harboured an eclectic instrumentation:

Piccolo Flute B♭ Clarinet B♭ Bass Clarinet	E♭ Alto Sax B♭ Tenor Sax E♭ Bari Sax	Horn in F Euphonium Percussion

Table 3-2 – Mackellar Girls High School Contemporary Wind Ensemble Instrumentation

Such an instrumentation still inspires me now and interestingly, the second movement of my symphony (composed in 2017), uses a similar collection of instruments (replacing saxophones with double reeds).

My affiliation with school bands continued well into my twenties and I often stayed up until the early hours of the morning composing customised works for my students, only to present them a few hours later at rehearsal. I also started arranging student compositions, constantly stretching and exploring my tonal wind band palette. Since winning the Frank Ticheli Composition Contest in 2006, all compositions have been for the wind band medium. I became a mother in the same year and as a result, opportunities for developing relationships with differing instrumental ensembles became more or less impossible.

Opportunities to work with wind bands of all capabilities throughout America, Canada and Australia have contributed to the development of my compositional craft for the medium, as has the marriage to conductor David Worrall, former director of the Royal Australian Air Force Air Command Band[5]. David's in-depth knowledge of the ensemble has guided my development as a wind band composer and helped me to source performance opportunities for my work. Development has continued over the past six years through the creation of the attached PhD creative portfolio, where I have continued to stretch my compositional craft, including the timbral capabilities of the wind band, regardless of personnel capability.

Career progression

With regard to the personal dimension of a composer, Andrews asks, 'What progression can be identified in a composer's career?' (Andrews, 2004, p. 7). Familial and pedagogical influences as well as limited career opportunities have guided my career as a wind band composer. My early music influences, particular playing the Organ have had enduring influences on my penchant for timbre that govern initial compositional thought processes to this day. Due to career limitations, the wind band became the centre of my compositional life and has resultantly become intertwined with my musical language. Additionally, living in

[5] Of no relationship to the aforementioned Australian composer, David Worrall

regional areas with wide open spaces, travelling through open country and spending much time alone in the process has developed a spatial aspect to my music. This textural component is directly linked to timbral outcomes realised through emotional considerations, often governing passages that explore emptiness, sorrow and contemplation. The *colour* of these and other emotions are now expressed between alternating combinations of woodwind, brass and percussion timbres. These initial thoughts and their fusion with wind band tone colours are the result of a lifetime of playing with timbres in a variety of ways, be that on an Organ, with friends, in a studio or through my students. The progression of my life has guided my innate 'colour-first' perspective as well as channelling that talent into works for wind band.

Chapter 4

The compositional process of a 'colour-first' composer and educator

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In Chapter Three the impact of early life experiences on my penchant for tone colour was explored. To further utilise the questioning P4 pattern devised by Andrews, Chapter 4 reviews compositional process and the impact early influences had, and continue to have, on my approach. A 12-step process is presented, and the impact early musical explorations continue to play on each step is carefully investigated. The influence of my teaching career is demonstrated throughout each stage, as is the influence of various teachers and conductors during my years of working with the wind band medium.

The impact of first compositions and education

In 1976 Social psychologist Stan Bennett interviewed eight composers to review their compositional process (Bennett, 1976). Bennett stemmed his research from the earlier work of Austrian critic/psychologist Max Graf (Graf, 2013 originally published in 1947), psychologist Leonid Sabaneev (Sabaneev & Pring, 1929) and Julius Bahle (Bahle, 1947). Bennett believed that a composer's first composition experience and the music education received could provide insight into the formulation of a composer's composition process, particularly the creation of the 'germinal idea'. In reviewing my own first compositional experiences, I find some direct correlations to my present-day approach and feel them worthy of exploration in this chapter.

The first piece I remember composing was a song for my sister, Jenny, who is my elder by six years. I was 10 years old and my family and I had not long moved from living in a school-based residence in the hamlet of Yenda, New South Wales (approximately 1,000 people) to a

suburban home in the larger, nearby township of Griffith (approximately 20,000 people). For the first time I no longer enjoyed the luxury of wide open spaces and now lived in a suburban street with neighbours. It was a very different experience for me; my father was no longer my school principal; my home was no longer a two-minute walk from the school and both of my elder siblings were now enrolled in high school. My sister went away for three months on an exchange program to New Zealand in May of that year and I developed separation anxiety. The song I wrote for my sister came from an emotionally inspired place and was written in response to how I felt about her going away. It is very intriguing to me now that my first entry into composition was conducted at the Organ and stemmed from a place of anxiety. The impact of emotion on the formulation of my germinal ideas is still a heavy fixture in my process (and will be discussed in later chapters).

My first composition for large ensemble (concert band) came seven years later during my final year of high school. The piece was called 'I had to do it' and was written for the local youth concert band. Composing a piece of music in the higher school certificate was compulsory, so I did indeed *have* to do it. This piece could not have come from a more different place to the song I wrote for my sister. In fact, I do not believe it had an emotional purpose at all. At the time, I was playing Clarinet and saxophone in a regional big band that was directed by Junee High School music teacher Michael Keogh. Keogh was strong in his opinions of what constituted 'good music' and my latter teenage years were dominated by his penchant for jazzed-up arrangements of popular music. When writing 'I had to do it', I aimed to emulate this style of music in a piece for concert band. I do not remember engaging in any emotional connection during the composition process; in fact, I believe I went straight to rhythmic and pitch-based material. That said, I do remember interviewing several friends in the local youth band, asking them about pitch range, dynamic control and where it was 'easy' to play. I reviewed a couple of scores for concert band and consulted an orchestration book by Alfred Blatter (Blatter, 1997). To this day when writing for a school group, I firstly conduct a survey that asks very similar questions and still consult the Blatter text on occasion.

When I began studying my Bachelor of Music in Composition with Larry Sitsky in 1989 at the (then named) Canberra School of Music, it soon became apparent that my works needed to

have more of a purpose. Sitsky often encouraged me to read texts by new authors/poets, attend different events including art exhibitions, plays and sound installations. I also had one main composer that I would study each year. The continued influence of these composers is illuminating to me now: Harry Partch (1901-1974), for his love of microtonalism and the invention of instruments to match his 43-pitched scale (many of my scores for student groups engage home-made instruments), Alan Hovhaness (1911-2000), for his use of free/quasi-improvised elements in scores (free/quasi-improvised elements are a feature of my works), Luigi Dallapiccola (1904-1975) for his use of themes relating to emotions (several themes in previous works are given an emotional personification) and Roberto Gerhard (1896-1970), for the extraordinary colours he could draw from any ensemble, be it small or large.

For some time, I wondered what studying different art forms and prose had to do with composing music, but now I clearly see that Sitsky was offering a broad range of stimuli to see what would provide that all important spark. Whether he was aware of it or not, he was stimulating aspects of my (limited) life experience and then building upon those components to draw an original compositional voice from the inside-out. By the time the third year of my four-year degree transpired, I had the beginnings of my very own, unique compositional voice. The works composed in third year differed greatly to those created in the first two years, and each one possessed a very specific purpose. I see the works created in the third year as a new set of 'firsts'; namely, the first time my own unique musical voice was heard. Aspects of my current compositional approach can be drawn back to the composition portfolio created during the third year of university and links have been made during the discussion of specific portfolio works in chapters five and six. Third year also presented some of the unhappiest periods of the undergraduate degree, yet it was the most musically productive. Upon reflection, the link between unhappiness and musical creativity seems to have been prevalent since my first composition experience at the age of 10 years.

Bennett notes that of the eight composers he interviewed, the ones who mostly praised their composition teachers were "those who put the composers on their own and helped them develop their own style through relating to their ideas" (Bennett, 1976, p. 6). Sitsky was no

exception to using a teaching methodology that embraced independence and exploration, and I will be forever grateful for his wisdom and insight.

Compositional process

> Composers don't walk around looking for a style; it grows from experience, opportunities in writing music, and combining musical ideas in a unique way.
>
> Joseph Schwantner, (in interview with Jeffrey Renshaw, 1991)

Bennett, Andrews and Graf ascertain that the creative process that drives the musical outcomes of a composer is constructed from a combination of ethnicity, gender, genetic disposition, personality trait and a lifetime of varied experiences. Each of these components feed the musical decisions made by the individual and over time, a voice emerges that reflects the person and the place they have carved for themselves during their existence. When it comes to reviewing my own compositional voice, the influences of my past and how these have nourished my now established compositional process provide insight into the works created for the PhD portfolio, as well as my 'colour-first' outlook.

I have consolidated my compositional process into 12 steps. Whilst not all compositions easily flow through this linear passage, each does waft through the general componential stages. The 12 stages align with the four-stage compositional framework devised by Max Graf (Graf, 2013) (as discussed in Chapter Two):

Figure 4-1– Blackshaw composition process aligned with Graf

Upon reflection, it is apparent that my process is partially linear, and partially spiralling. The spiralling aspect of my process engages the creation of pitch material and spans both the 'musical conception' and 'sketching' components. As Bennett states, "first drafts and sketches can frequently lead to more new germinal ideas via a series of free-associations" (Bennett, 1976, p. 8). It is here that the series of "free-associations" associated with 'colour-first' thought processes, external influences and musical knowledge and past experiences merge to create pitch-based material deemed suitable for the piece in question. Surprisingly, regardless of whether I am composing for apprenticing or professional musicians, the process itself does not alter (outside of the need to establish educational parameters when writing for apprenticing musicians – see Step 4).

Hence, to provide a general overview of the impact of life experience(s) on each compositional stage, I posed the autoethnographically-inspired question:

> In a general sense, what happens during each of these stages and can links be drawn between them and early composing/musical experiences and career opportunities?

Productive Mood

> Musical ideas, like young wine, should be put in storage and taken up again only after they have been allowed to ferment and to ripen. I often jot down a motif or a melody and then tuck it away for a year. Then when I take it up again, I find that quite unconsciously something within me—the imagination—has been at work on it.
> Richard Strauss (in conversation with Max Graf, 2013, p. 199)

Extending on this quote by Richard Strauss, I suggest that it can feel daunting to 'get into the mood' when writing a new piece. At times, it feels like you are standing at the base of a very large mountain, unsure how to proceed. From the outset it is important to me that each piece of music I compose has a purpose. The purpose is either aimed at the performers themselves (usually when writing for students), or at the listening audience. I am keen that the work's purpose be linked to an underlying message or offer the performer and/or listener the

opportunity to come to some kind of realisation, whether that be about themselves or an aspect of humanity.

The purpose, or that all-important spark, is described by Bennett as the "germinal idea" (Bennett, 1976). A *germinal idea* can be stimulated through a chance encounter, be the result of research into a particular field, a poem, an image, a place, a living thing (tree, person, family pet etc..), a melodic fragment or even a scientific phenomenon. Thanks to my early composition experiences as an undergraduate, I see the germinal idea as the soul of the work. Every musical and non-musical concept for a new piece is connected to its *purpose*, and its purpose is fused, from the very beginning, with an over-arching impression of tone colour.

Graf described a composer's voice as being their 'musical fantasy' and that this voice is forged from life experiences that manifest in the subconscious mind:

> The force of musical fantasy ascends from this underground of the soul to its higher layers. As it passes each stratum, it takes along some of its constituent parts: memory, old sentiments, things long past and forgotten. The sounds take nourishment therefrom, grow, assume larger proportions, until everything that originated in this manner reaches the light of consciousness.
> (Graf, 2013, p. 30)

If this is the case, then an encounter with an image, poem, quote, or even simply a glimpse of a beautiful moment in nature may instigate a creative response because they mirror *constituent parts* of the subconscious mind. For example, when composing works for apprenticing musicians, particularly children, I seek a purpose that I believe is relevant to the target age group. What I believe is relevant has been formulated through a series of life experiences concerning the teaching and mentoring of children, including:

- 10 years as a one-on-one peripatetic music tutor (students aged 5-18 years)
- Eight years as a classroom music teacher (students aged 3-18 years)
- 12 years directing instrumental ensembles in a wide variety of geographical and socio-economic environments (students aged 12-18 years)

- Research into educational philosophy including Whitehead (Whitehead, 1967), Gardner (Gardner, 1992) and the brain-based educational approach (Caine, 2009; Kaufeldt, 2009)
- 20 years engaging Orff-Schulwerk pedagogy
- 25 years dedicating my compositional approach almost entirely to the creation of works for children aged 9-18 years
- Being a mother (for me, the ultimate teaching and learning experience).

Each of these life experiences inform the relevancy of the germinal idea to children of different age groups. The aim is to find an idea that can springboard in several directions offering not only a pathway for expressing my tone colour orientated voice, but one that will also stimulate creative engagement and fascination for my target audience. In this case, the target audience is the students performing the music.

Once the germinal idea has been established, the need to ferment or 'brew' this concept into something more visually tangible is necessary. I don't possess the 'spatial intelligence' (Gardner, 1992) to visualise large concepts in my head; hence, I often mind-map my initial concepts of the germinal idea in words and pictures, before moving to the 'musical conception' stage of composition. Mind-mapping occurs in a notebook, on a whiteboard or in a large artists' sketch book. Continued exploration of the germinal idea is then explored through drawing and/or painting. An example of this is featured in figure 4-2. The image on the left is an initial mind-map created for the fourth 'Spring' movement of Symphony No.1, on the right is an original drawing that reflects aspects of the mind-map including "bright colours", "birds flying the same path just a little different each time", "abundance" and "renewal".

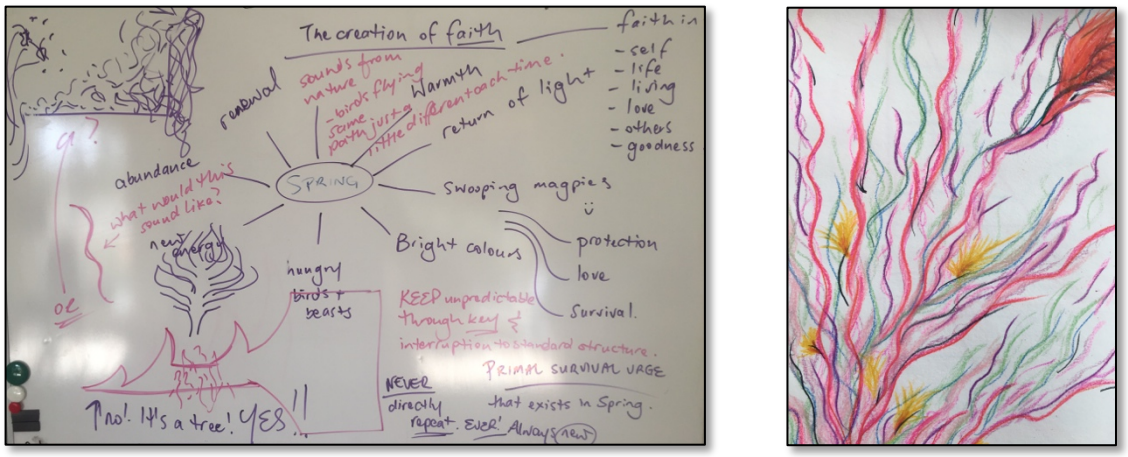


Figure 4-2 – Mind-mapping and drawing example

I use different visual art mediums to expound initial impressions be they water colours, pencils, markers or pastels. That said, they are always expressed on paper. I have long used drawing and journaling to unearth painful emotional moments in my life and it is of no surprise that the same technique is used to connect my emotional self to the initial stages of a new musical creation. Outside of the whiteboard, I sometimes keep some kind of journal to put musical ideas/expressions into words. This process can be linked back to the very first large ensemble piece that I wrote called, 'I had to do it'. My submission for the Higher School Certificate required not only a score but also, a 'composing diary'. The composing diary was to demonstrate the compositional process, especially the development of ideas and musical sketches. I maintained the use of a composing diary throughout my undergraduate years and since that time, many pieces are represented by the notes, drawings, journal entries and mind-mapping experiences explored in one particular notebook. I even have a store of empty notebooks, believing each one to represent a future composition. It seems that recently however, the notebook has given way to larger mediums including the whiteboard and large pieces of artist paper.

During the first stage of composition known as the 'Productive Mood', I formulate and explore different manifestations of the purpose of the piece. Life experiences have guided me down the path of mind-mapping, journaling and drawing, whilst also conducting additional research and taking myself on long walks and country drives to further process the germinal idea. Each of these explorations form an emotional bond with the idea and all the while, hovering (most

of the time in an untouchable space), the timbral components of the work are becoming established. When it comes time to translate the thoughts and ideas into pitch material, it is the fusion of colour, emotion and purpose that govern the outcome.

Musical Conception and Sketching

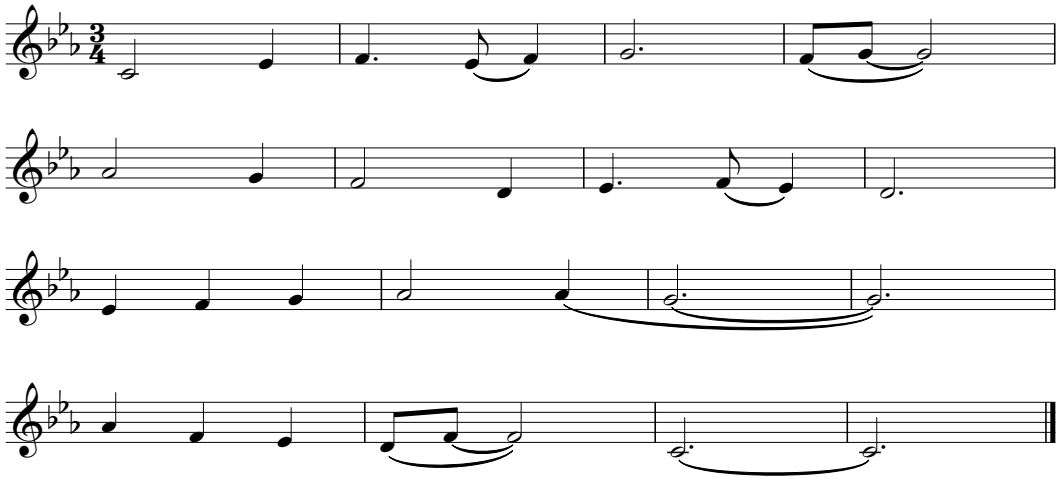
> I carry my thoughts with me a long time, often very long, before writing them down. My memory is so faithful that I am sure, once I have conceived a theme, I will not forget it, even years later. I change quite a bit, discard some, and try again until I am finally satisfied; then, in my head, begins the refinement in all directions; broadwise, upwards, into the depth, into the narrow. Since I am aware of what I want, the fundamental idea never leaves me; it mounts, it grows; I hear and see the picture in its whole expansion as in a mould.
>
> Ludwig van Beethoven in conversation with Louis Schloesser, 1823 (as cited in Graf, 2013, p. 180)

When it comes time to turn on the Korg Wavestation and start exploring pitch material, I have a strong idea about the mood and purpose of the piece. As a 'colour-first' composer, the mood and purpose are strongly influenced by timbral considerations hence the overall colour of the piece is also quite clear. Unlike Beethoven, I do not carry themes inside my head for a 'very long time'. Instead, I carry emotions and tone colours and view pitch material as a vehicle for expressing these mood-induced timbral entities.

Unearthing the most appropriate melodic and harmonic fabric of a new work are governed by a number of influences. It is the most difficult part of the compositional process and I cannot describe why some pitch material is more palatable to my ears than others. What I can discuss is some of my natural tendencies and propose why these may have eventuated. Other areas for exploration include alteration in pitch material and the use of improvisation.

When it comes to finding initial melodic material, I have a tendency toward modes rather than keys. I often base initial material with a 'G' tonic, as that pitch seems to resonate strongly within my body, and it is also the best key for my singing voice. I attribute this natural tendency

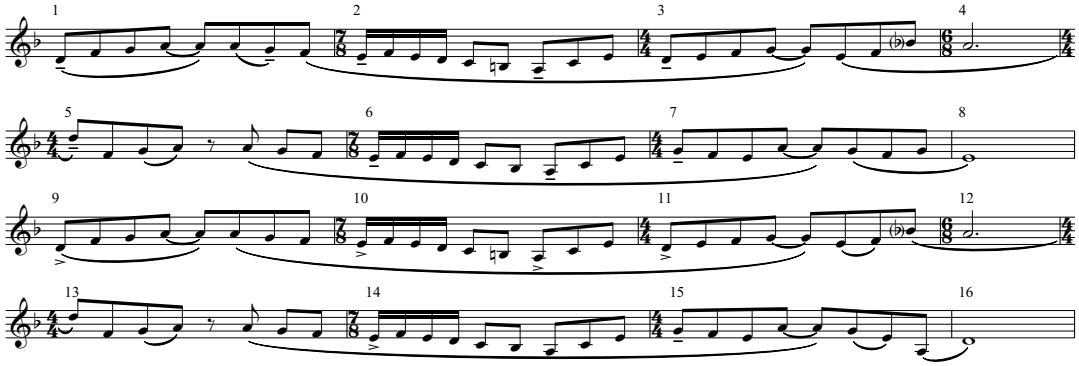
towards modal melodies (with peculiar regard for the aeolian mode) to my Anglo-Saxon heritage. My paternal grandfather hailed from Manchester, England and my paternal grandmother was a second generation Australian, whose parents also came from England. Each of my paternal grandparents came from working class families and raised their own children in simple means. My mother's parents were second-generation Australian Anglo-Saxons. They stemmed from a long line of farmers and lived in reasonably comfortable, yet modest conditions on the outskirts of Wagga Wagga, New South Wales. Hence, I am not surprised that the melodies of English folk songs and their trailing, often arrhythmic nature feel uncannily familiar. As a result, I feel that many of my melodies possess elements of folk song, at times being fragmented and asymmetrical. At other times, they are repetitive, with alternating 'A' and 'B' endings. Compare the following two melodies. Score sample 4-1 presents the melody composed for *Earthshine*.



Score sample 4-1 – Melody from *Earthshine* (audio available)

The Earthshine melody is composed in the aeolian mode with the lilting feel of compound time. Whilst it is symmetrical, there is no repetition of any pitch material in any phrase, providing a narrative-styled melodic line. The shape of the first and third phrases is similar with both ending on the dominant. The second and fourth phrase are even more similar with phrase two ending on the supertonic and phrase four on the tonic. This melody is written for young players and possesses a pitch range limited to one sixth.

However, the melody for Catango 5 (score sample 4-2) is a little different:



Score sample 4-2 – Melody from *Catango 5* (audio available)

The *Catango 5* melody is written with a tango-feel in mind and toggles between the Dorian and Aeolian mode, with the addition of a sharpened 6th in measures 2 and 10. The melody is written in a standard A-B-A-B form, similar to many folk songs, yet employs rhythmic changes to emulate the slinky, often unpredictable movement of my male cat, 'Vinnie'. The toggling between two modes was also inspired by his capricious, sporadic behaviour.

When it comes to harmonic language and the selection of key, there are a number of different influences that guide harmonic selection for a particular work. The mood and purpose of the work have the greatest impact on harmonic selection, and it is here that the years spent learning the Organ have their greatest impact. Step Five of my process (as displayed in figure 4-1) is where the search for pitch material begins, and this is formed through short improvisatory bursts recorded on the Korg Wavestation's 16 track sequencer. Interestingly, the tone colour used on the Korg must match the mood and purpose of the piece I am working on; without the correct timbre the pitch material simply will not flow. I attribute this need for the correct creative colour to the years spent at the Organ playing around with tone colours and improvising with chord progressions and melodic ideas.

During the second stage of composition entitled 'musical conception', the Korg voices always engage an element of reverb, yet a metronome is never utilised. Once again, my Organ playing days provide a window into this process. At times, I play around with single melodic ideas. Other times, melodies are punctuated with harmonies; i.e. the melody is harmonised, or a chord progression is added to a melodic line. This reflects how I was taught to play the Organ,

playing harmonised melodies in the right hand and chord progressions in the left. Harmonised melodies were usually voiced in thirds below the main melody, and even now I favour major and/or minor third extensions.

Each time I create a new idea on the Korg Wavestation I save it as a 'song' onto an SD card. Sometimes I will store up to 10 or 20 'songs' until I reach a melodic idea that exactly matches the mood and/or purpose of the work. From here, the spiralling/looping between improvising and transcribing occurs:

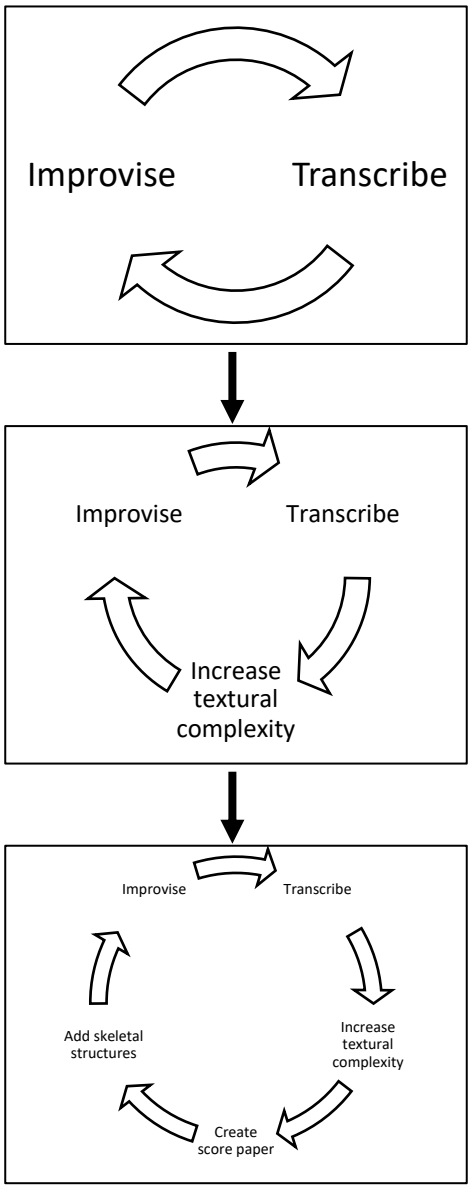


Figure 4-3 – Generating pitch material

Often this process of improvising and transcribing will occur up to 20 or 30 times until the material feels adequately explored. It always begins with improvisation, then transcription. The increase in textural complexity refers to the addition of homophonic and polyphonic textures, often attributed to different tone colours. When the material starts to become too complex to continue this process, a blank score page with appropriate instrumentation is created. Lines are added into the score one by one, but the score isn't usually formed in a linear fashion. Often, sections are created in these skeletal structures and then these are massaged together in the 'composing stage'.

An example of generating pitch for the work *Peace Dancer* is shown in figures 4-4 and 4-5 (over page). It took quite some time to come up with the appropriate pitch material for *Peace Dancer*. I attribute this to constantly changing my mind about what I wanted the emotional intent of the work to be. In the end, the whole piece was inspired by a single counter melody. Figure 4-4 shows the first transcription of this counter melody (the main melody is notated in the lower half of the manuscript). From here, the counter melody was placed into a skeletal Sibelius file to add textural complexity including chords that were created during an improvisation session after the transcription of the counter melody (figure 4-5). After further exploration of this counter melody and chords, I was able to reach a state of compositional flow (Csikszentmihalyi, 1991) and the pitch material notated in the short score (page one shown in figure 4-6) is a direct transcription of a complete improvisation made in this state of flow, based on the material of figure 4-5.

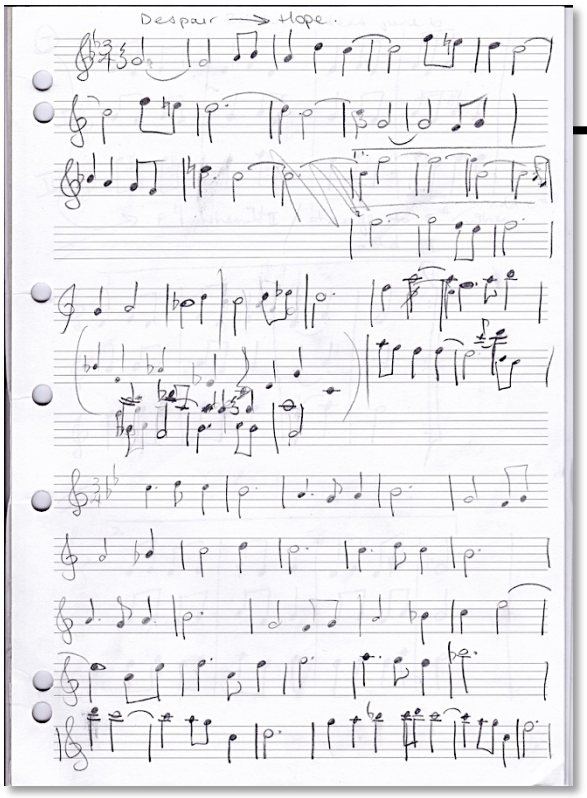


Figure 4-4 – Transcribed page of initial pitch material (Step 5)

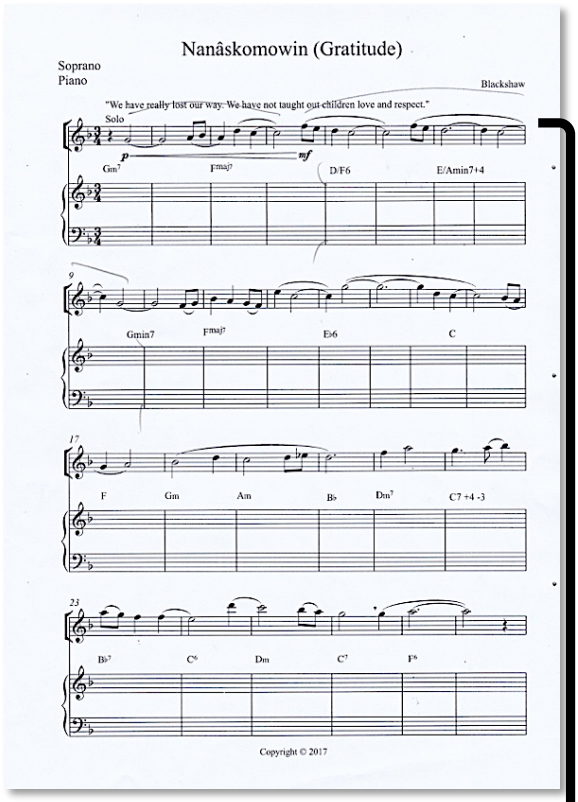


Figure 4-5 – Adding textural complexity (Step 6)

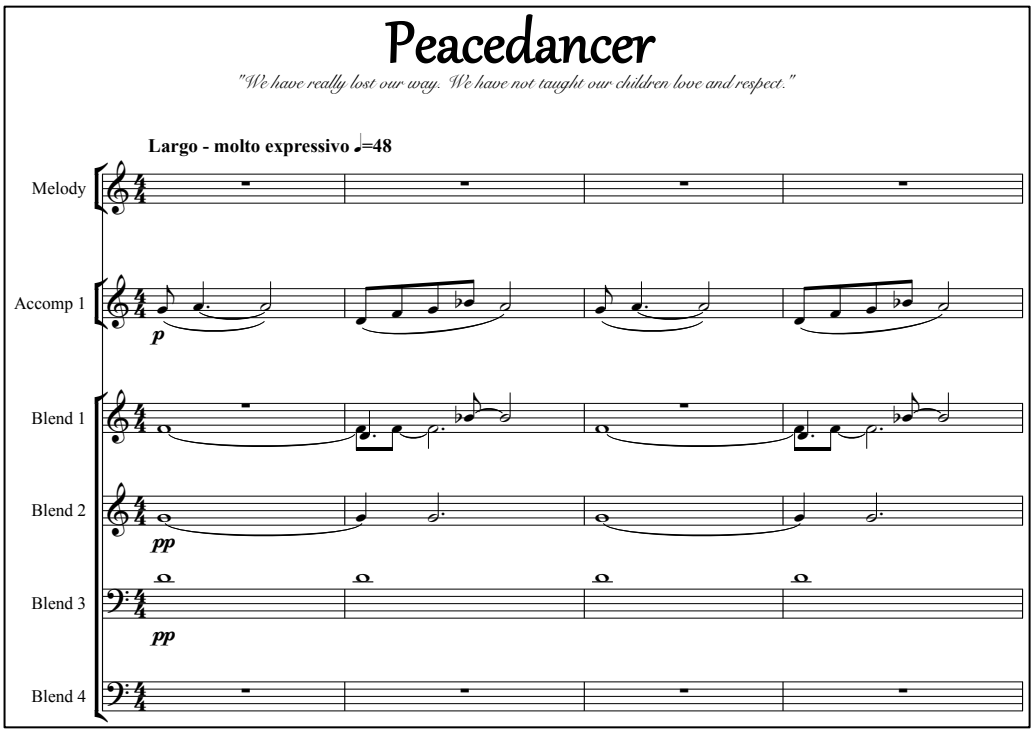


Figure 4-6 – Additional improvisation on figure 4-5 becomes a short score (Step 7)

From here, a further extension in pitch material was written to create a more appropriate ending for the piece (figure 4-7).

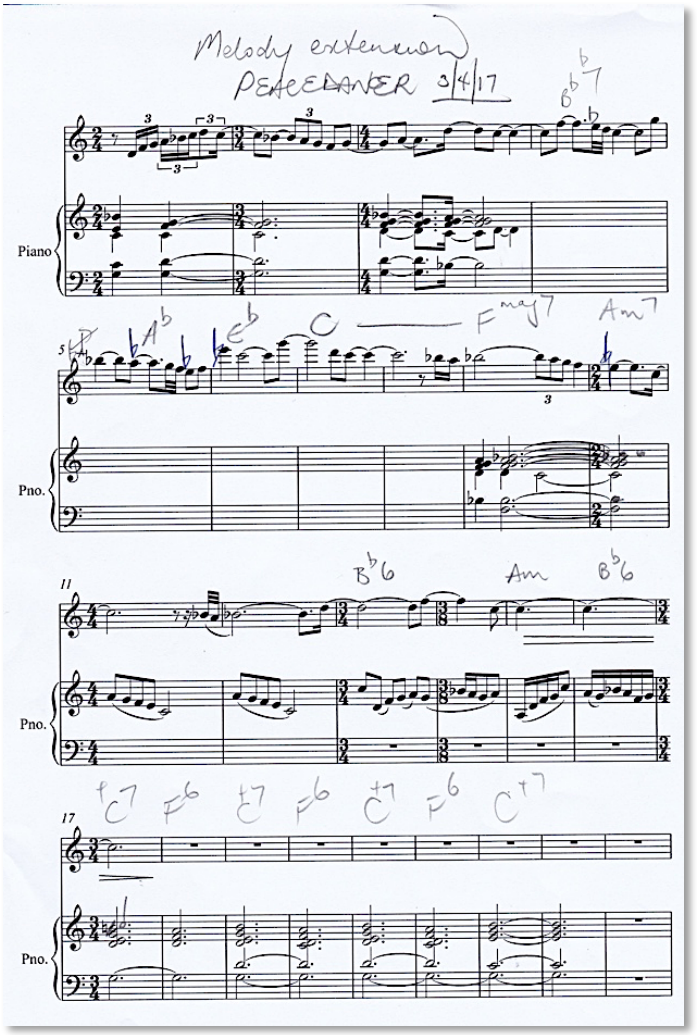


Figure 4-7 – Melodic extension material for *Peace Dancer*

You will note the addition of the words 'despair' and 'hope' at the top of the page in Figure 4-4 (Step 5), and the addition of a quote, "we have really lost our way, we have not taught our children love and respect" in figure 4-5 (Step 6). This quote comes from the text *Peace Dancer* by Squamish nation leader, author and artist Roy Henry Vickers and Robert Budd (Vickers, 2016). It was this quote that inspired a change in mood and purpose for this work, and the alternating themes of hope and despair then inspired the development of the pitch material. The timbres used on the Korg Wavestation to generate this initial set of pitch material were an Acoustic Guitar and solo Flute, substantially different to the final piece that is scored for wind symphony.

When it comes to creating music for apprenticing musicians, the only main difference is in complexity. My experience as an educator helps to inform how rhythmically, texturally, harmonically and timbrally complex a piece can be (based on the target ensemble). As a composer-educator, I am also cognisant of the impact of capability limitations on melodic material. For example, a beginner group may only be able to play up to four or five notes in a limited pitch range. All of my works for apprenticing musicians are for wind band, hence it is vital that I consider key signature. The key signature must align appropriately for differing transposing instruments and the notes utilised in the melody should not present any unnecessary difficulties (this is discussed in more detail in Chapter Five). Sketches such as figure 4-8 are commonplace when writing for apprenticing musicians and it is usually from this range of pitch material that I commence the process of improvising and transcribing melodic fragments.

Other considerations include rhythmic and harmonic complexity. Fortunately, the 'colour-first' approach lends itself well to works for apprenticing musicians, allowing creative, percussive and/or vocalised passages to provide colour-changing options, rather than leaning on the development of pitch material which in many cases, is difficult to achieve.

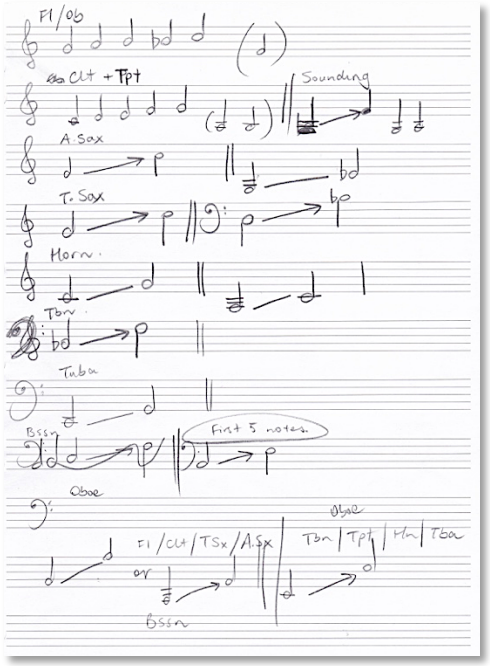


Figure 4-8 – pitch range stencil for apprenticing musicians

The "sketching and composing" stages

> Writing sketches serves a different purpose for each composer. For one, it is a means of setting fantasy in motion. For another, it is a technique for surmounting opposition from the subconscious. Some use sketches as a preliminary establishment of the tone picture, as the outline of an idea; some as a foundation upon which they continue to build. In any case the sketch is the first moment at which the conscious forces of the soul test and examine the musical ideas and forms, and prepare to begin their work.
> (Graf, 2013, p. 264)

As demonstrated in figures 4-4 to 4-7 with the *Peace Dancer* example, sketching is the stage reached in my compositional approach after the initial improvisation/transcription cycle. I align with Graf's assessment that sketching provides an "establishment of the tone picture", and it does so through the initial pitch material. A spiralling phase then exists between the 'sketching' and 'composing' phases as it does between 'musical conception' and 'sketching'. However, this tends to occur between the development of pitch material and the short-score (steps 6 and 7), and then again between the short score and placement of pitch material into the target instrumentation. At this time in the compositional process, my workspace is littered with images, drawings, mind-maps and pitch-related sketches all linked to the purpose of the work. Such stimulations hang on the walls, are attached to my computer monitor, lay on the floor around where I work or are laid out in sketchbooks and notebooks.

It is here that years of music experience and education come into play, ensuring that the orchestration reflects the original tone colour vision inspired by emotional intent and the original purpose of the work. As Boulez stated:

> To understand the extent to which timbre, composition and affectivity are linked in the mind of the composer, one only needs to look at the musical education he has received, and which he himself transmits. Instrumentation is not learned by a systematic study of timbre, but by picking out here and there examples, chosen as models, which work particularly well.
> (Boulez, 1987, p. 162)

In my case, the “models” chosen to reflect the desired timbral outcomes stem from years of working with the wind band medium. I am fortunate in that I have composed for one kind of ensemble for a lengthy period, and as a result, have several different orchestration examples from my own previous work to draw upon. My extensive experience with the ensemble has brought about a desire to push the tone colour boundaries. That said, my years as a developing composer-educator provided me with the opportunity to have my works played instantly by my own ensembles, and as a result of this, the ‘birthing process’ (as I call it - step 11) has become an integral aspect of the final ‘composing’ stage.

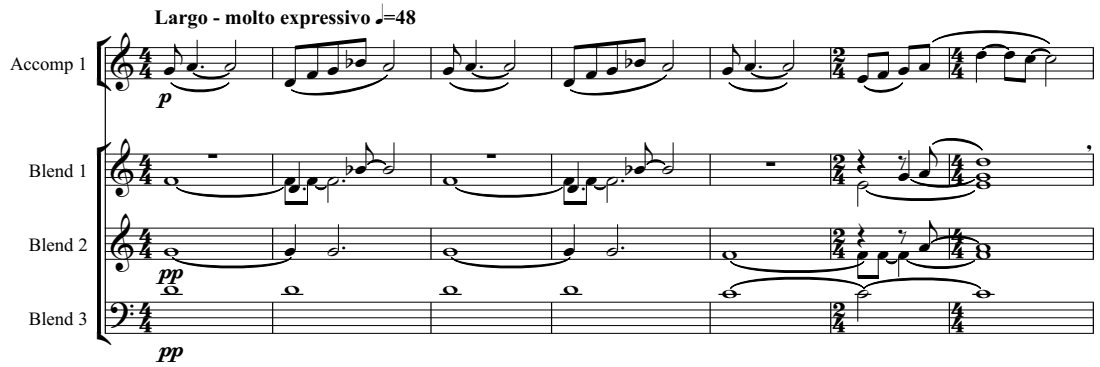
The ‘birthing process’ occurs when a work is first placed in front of live musicians and workshopped with a conductor. Once the first draft of the score is complete, I do what I can to find an ensemble to play through the work for me. A wind band can be a challenging ensemble to navigate, with many variables (particularly regarding novice groups). A nasal-toned saxophonist, an over-sized Flute section, an under-sized Clarinet section or a lack of bass-end instruments can all have a dramatic impact on the timbral production of the ensemble. The capability of the conductor can also have a major impact on the successful ‘birthing’ of a new work. Hence, it is important to make the score as robust as possible, whilst still maintaining artistic integrity.

A good example of the ‘birthing process’ is the first realisation of the work ‘Peace Dancer’. In *Peace Dancer*, I reconnoitred a new compositional approach, experimenting with new-to-me timbral concepts. I did not have any ‘models’ to base my ideas on, and such a risk left me wide open to failure. However, risk is necessary if growth is to occur.

The first rehearsal occurred during a music camp held in July 2017. The ensemble performing the piece was populated with students aged 16-18 years plus a handful of mature-aged students and I was fortunate to be working with a highly skilled and experienced conductor. After the first rehearsal of *Peace Dancer*, I honestly thought the piece was a complete failure. My experiment just didn’t seem to work. Whilst I could accept that *Peace Dancer* was going to stretch the performance capability of the ensemble, I also realised that the piece had to be

scored in a more robust way. The question was, could I do this and still maintain my artistic intentions?

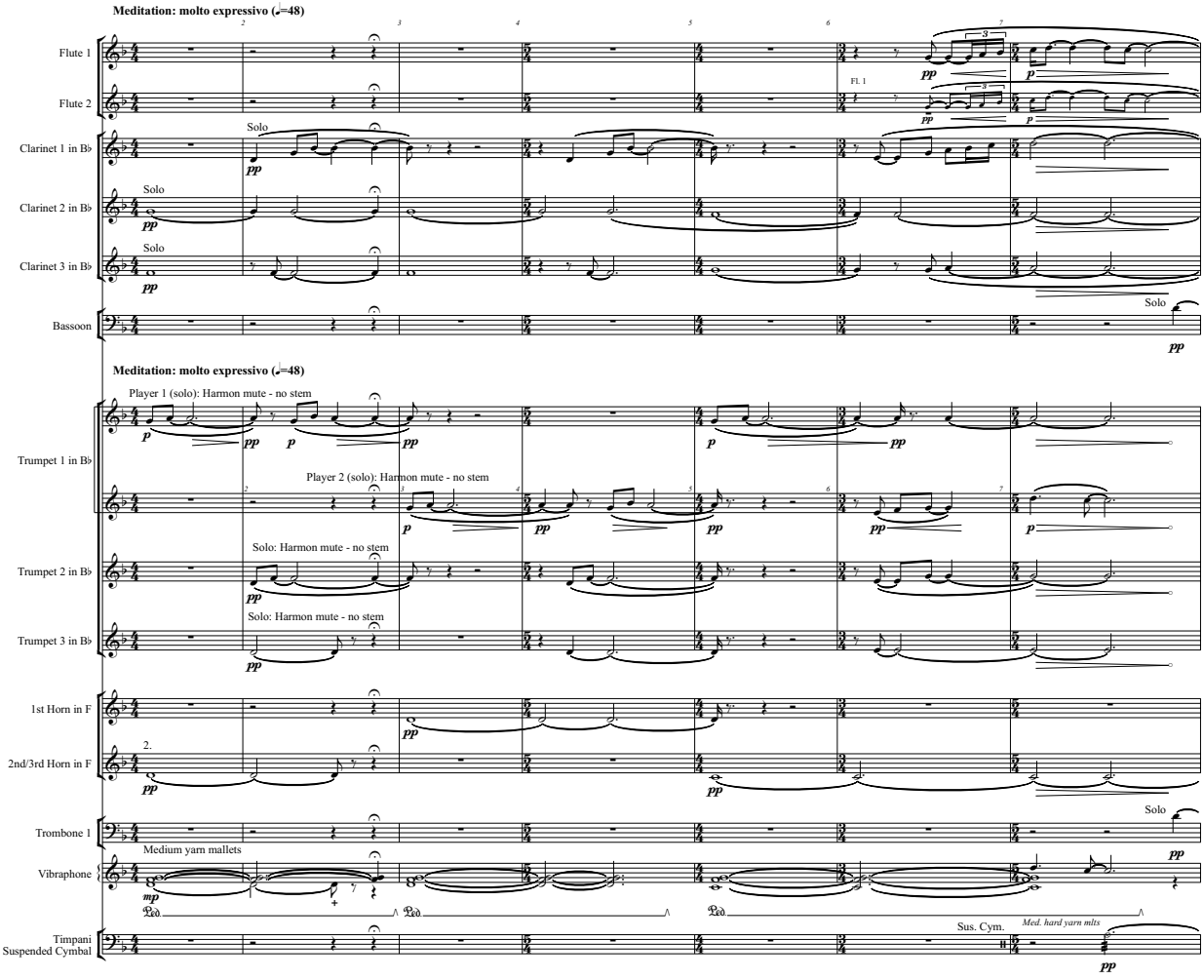
The night after the first rehearsal, the conductor and I sat down with the score and spent three-four hours scouring through each and every bar. The conductor was incredibly generous with his energy and knowledge, and not once did he cast judgement. He genuinely believed in the work and wanted to help. What was extraordinary to me was the ability to collaboratively and intensively work with a highly skilled and knowledgeable conductor on the actual art of notation. Not the harmonies or melodic lines, just the orchestration of particular colours and how to notate them so that the students could successfully read the music. A good example of this is the opening seven measures. I was aiming to reflect the emotion of a meditative, frozen state. A place of quiet shock and disbelief represented by a pale, ice blue. The original opening passage, conceived for guitar, was a ringing of arpeggiated notes as shown in score sample 4-3:



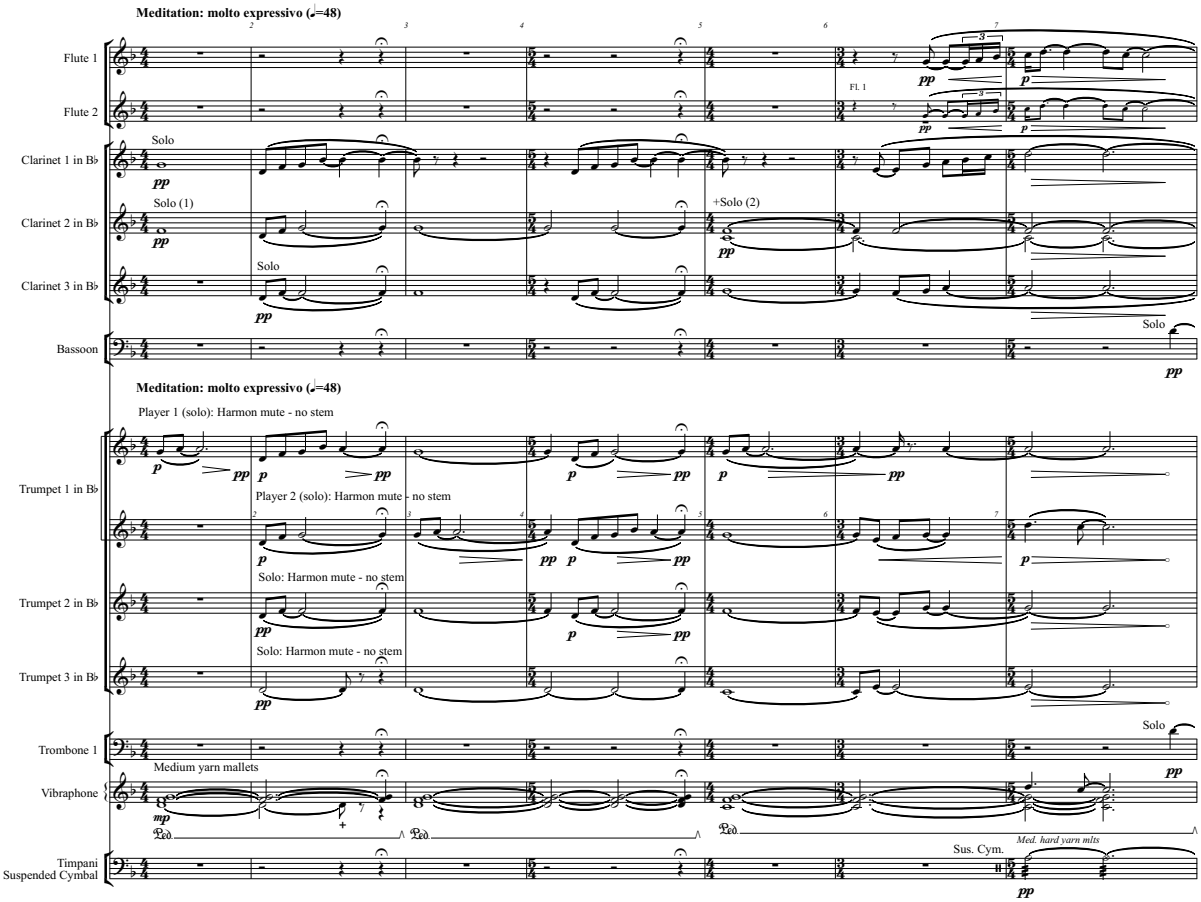
Score sample 4-3 – *Peace Dancer* bars 1-7, short score (April 17, 2017)

From this original short score, I created the first scoring of the pitch material for muted Trumpets, upper winds, horns and melodic percussion (see score sample 4-4). The original idea was to pedal the chord with overlapping horns, a blend of muted Trumpets (harmon mute, no stem), Clarinets in their open, fragile range and low-range Flutes for the moving material. The Vibraphone would provide an additional fragility to the colour as well as reverberation. Notes tied to quavers and semiquavers were an effort to use notation to provide a difference in how the sound was released on the downbeat of these measures. However, this was very confusing for students (even experienced high school students), and

the melodic line clearly defined in the short score was lost amongst the myriad of different instrumentalists. Each player approaches the articulation of their sound differently and also had, at times, a strikingly different tonal quality, causing the melodic line to become lost to the listener. After a series of attempts, by the end of the music camp, I was using a substantially different scoring technique (as shown in score sample 4-5). The melodic lines were more clearly scored in Trumpet 1 and Clarinet 1. The notes of each of these melodic lines were more clearly pedalled in lower Clarinet and Trumpet parts, and Trumpet 3 was used to replace the Horn pedal. However, I was still not happy with the outcome and returned home to Australia to consider all that I had learned during this all-important birthing process.

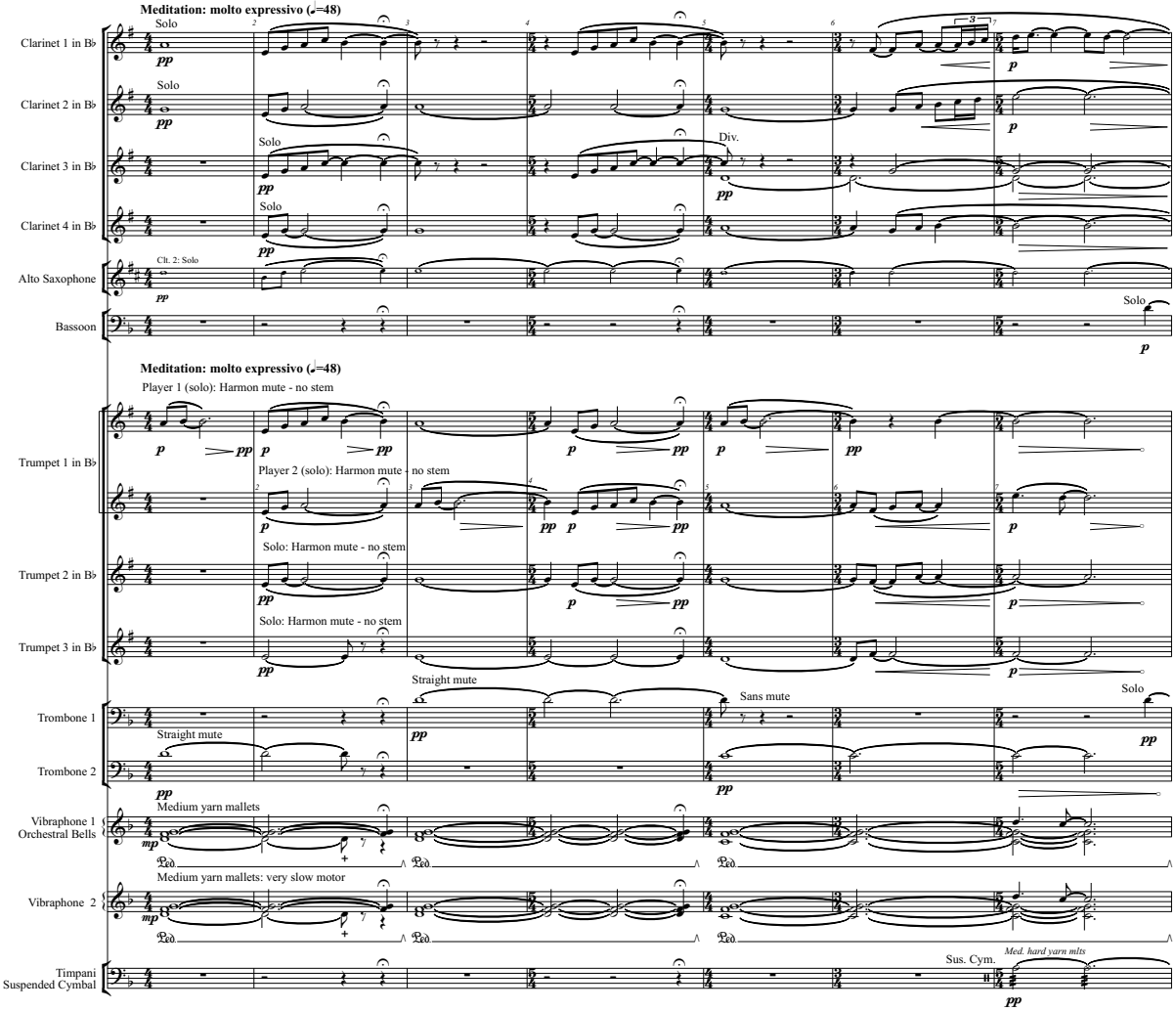


Score sample 4-4 – *Peace Dancer* bars 1-7, full score (30 May, 2017)



Score sample 4-5 – *Peace Dancer* bars 1-7, full score (27 July, 2017) (audio available)

The official world première of *Peace Dancer* was programmed for November that same year. I continued to re-work the opening of the score and finally settled on the orchestration displayed in score sample 4-6. I returned the pedal note originally placed in Horns, but this time, it was placed in Trombone with a straight mute. The Horn 1 part was already demanding for a high school player and in considering high school performers, it was necessary to reduce the amount of playing time for the performer. A fourth Clarinet player was added to provide further resonance and allow more of the notes in the original chord to be held. The fourth Clarinet player also enabled the removal of Flutes from this opening passage (I wanted to keep the opening timbre limited), whilst also enabling upper parts to highlight dissonance, providing more weight to the original emotional intent. A second vibraphone part was added as I felt that the weight of the vibraphone timbre needed to be heard more clearly and to achieve this, a second part (and additional instrument) was required.



Score sample 4-6 – *Peace Dancer* bars 1-7, full score (7 November, 2017) (audio available)

By this stage, I had re-scored the opening seven measures 15 times. Years of previous experience, coupled with the conductor's extensive knowledge of high-end repertoire (and considerable podium-time in front of an ensemble populated with outstanding undergraduate and post-graduate students), stretched me into a new realm of thinking and hearing. Through this process, I have collated a new repertoire of timbral 'models' that continue to inspire my compositional practise.

The 'composing stage' is the culmination of all four stages, and it is vital to remain focused on the original germinal idea, as for me this is the original purpose of the work. Then, and

only then will the composition have cohesion, where the pitch material, timbral outcomes and emotional intent are all fused together successfully with meaning. As Graf stated,

> .. the root of musical conception already contains the growing and forming forces that decide whether a composer will be a natural genius, an intelligent baroque artist or an artist given to mannerisms. (Graf, 2013, p. 234)

I believe that I am composer who is 'given to mannerisms', and that these are expressed in tone colours, formulated through an emotional purpose. Whilst my compositional process is not by any means extraordinary, it does demonstrate my commitment to writing with purpose and the lengths I will endure in order to ensure the piece clearly and efficaciously achieves the emotional intent through 'colour-first' eyes.

Chapter 5
Being an *educator*-composer with a 'colour-first' perspective

> Only recently did I make the realisation that my compositions for apprenticing musicians have been unwittingly introducing students to music composition through a 'colour-first' lens. It also seems that the educational philosophy and pedagogy that has inspired my teaching approach for the past 30 or so years has enabled me to continue to wear my 'colour-first' glasses, even as an educator. The result is a series of timbral-centred works that amalgamate my compositional approach with many years of teaching classroom music and conducting ensembles utilising Orff-Schulwerk pedagogy (Orff, 1995), Multiple Intelligence Theory (Gardner, 2011), Whitehead's education principles (Whitehead, 1967) and the Caine's brain-based approach to education (Caine, 2009; Caine, 1990).

The creative portfolio explained

The creative portfolio of works attached to this study are all composed for the wind band medium. As discussed in Chapter One, wind bands now predominantly exist as a vehicle for music education. Hence, a wind band composer is a composer who possesses the ability to create appropriate works for apprenticing musicians at every stage of learning, as well as works for professional-level musicians. Wind band composers emerged in the mid-twentieth century, and were a natural development resulting from the need of new repertoire:

> The need for original music was crucial in the emergence of the composer whose primary medium was wind band; in turn, the literature was enhanced by the emergence of these composers.
> (Campo, 2007, p. 42)

My creative portfolio of works embrace each of the different stages of learning whilst also including a four-movement symphony. Each of these works are composed through the 'colour-first' lens; however, some of the works are written with a strong educational purpose and others, with the purity of artistic expression.

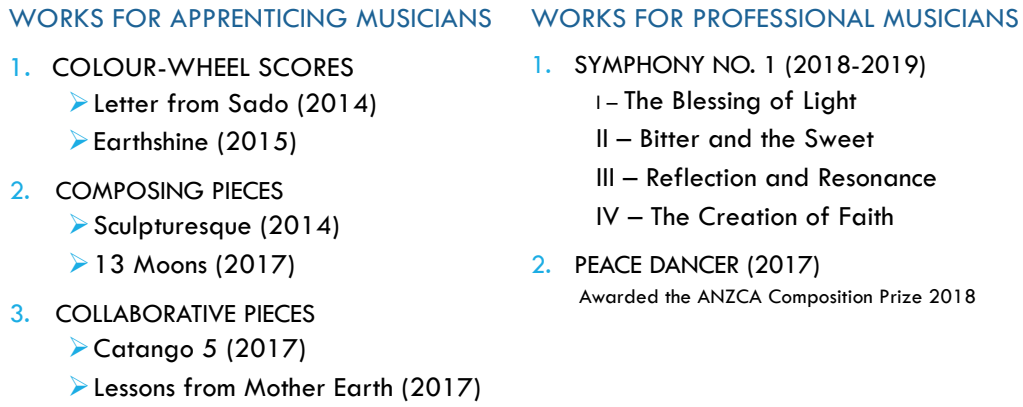


Figure 5-1 – Creative Portfolio of works

In this chapter, I focus on the creation of works for apprenticing musicians (defined in the Introduction as any person, of any age, learning to play a wind band instrument). The six works composed for apprenticing musicians (see figure 5-1) have been categorised into three different styles of educationally-focused repertoire:

1. *Colour-Wheel Scores*: works that provide directors and students with different seating layouts for rehearsal purposes to enhance the player's understanding of timbral blend;
2. *Composing Pieces*: works that enable students to compose with the elements of timbre, texture, structure and expressive techniques in a large ensemble context;
3. *Collaborative Pieces*: works that combine musicians of different capability to encourage performance enhancement through mentoring.

To understand how these works are aligned with wind band repertoire, let us refer back to a table of genres devised in Chapter One:

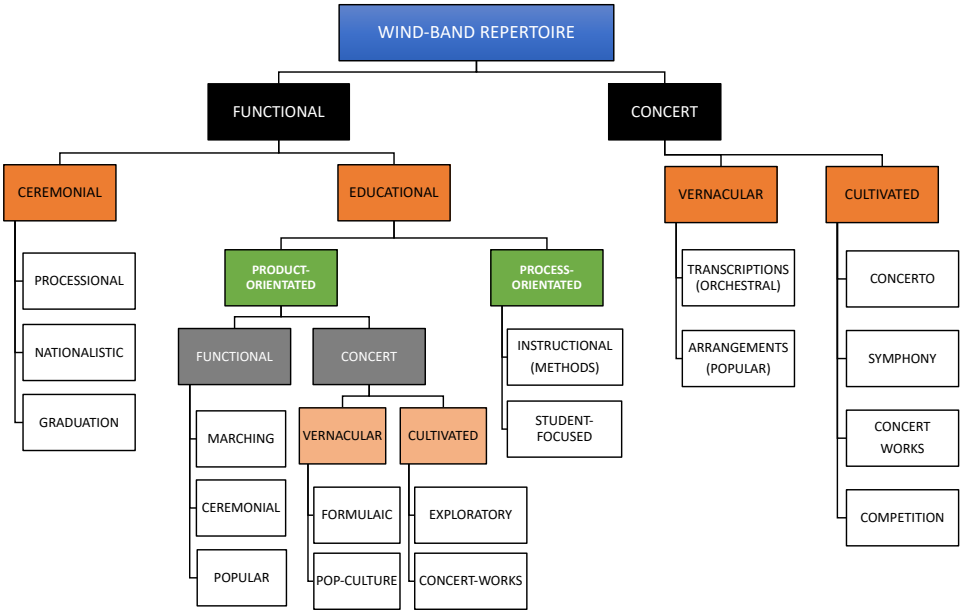


Table 5-1 – Genres of Wind Band Repertoire

Works for apprenticing musicians fit into the *Educational* arm of *Functional* wind band repertoire. Three of the works align with *Product Orientated > Concert > Cultivated > Concert*-Works: *Letter from Sado*, *13 Moons* and *Catango 5*. The remaining three works align with *Process Orientated > Student-focused* works: *Earthshine, Sculpturesque* and *Lessons from Mother Earth*.

Process Orientated works pertains to music written purely with an instructional purpose. Whilst much of the *Educational* wind band repertoire stems from a performance-focused perspective, there are an increasing number of works that provide students with the opportunity to explore aspects of music making without the requirement (or pressure) of performance. *Student-focused* works, featured as part of the *Process-Orientated* genre are exactly that, focused on student educational needs. They have been created for the sole purpose of teaching and learning. It must be clarified that all of my works for apprenticing musicians have a *student-focused* component; however, some works successfully combine this component with emotional conceptions during the 'Productive Mood' stage of composition to create a different outcome. Each work is steered through the 'colour-first' approach and timbral-focused elements appear either as a teaching tool or a musical expression (or both).

Educational or artistic purpose? Or both?

The significant practise-led nature of this autoethnographical study, and the lessons learned during the process will continue to inform my composition practice for many years to come. In particular, I have realised that altering my focus from composer to educator during the 'Productive Mood' stage of the composing process alters the musical outcome, and the overall function of the composition.

For me, the initial 'Productive Mood' stage of composition either stems from an educational or emotional place. Sometimes the educational and emotional components fuse together, and sometimes, they do not. The resulting product can thus be categorised as either:

1. a work with a pure *educational* purpose (*student-focused*),
2. a work with both an *educational* and *performance* purpose (*exploratory*), or
3. a work with a pure *performance* purpose (*concert-works*).

When composing *student-focused* repertoire, the mind-mapping, drawing and initial exploration conducted during the *Productive Mood* creative phase is centred on educational goals and outcomes. Whilst the 'colour-first' approach remains prominent, the compositions turn out quite differently, and for some time I believed that these *student-focused* works were weak, or simply unsuccessful. I now see that the weight given to emotional and/or educational ideologies at the initial stage of the composing process produces either a *student-focused*, *exploratory* or *concert-work,* and that they all have their place in the broad wind band genus. As a composer-educator, realising that I can alter the ratio of educational/emotional thought processes during the *Productive Stage* of composing to produce works with artistic and/or pedagogical outcomes is an important, and indeed life-changing discovery.

Being an educator who composes music: composing through a 'colour-first' educational lens

To investigate the change in focus during the 'Productive Mood' stage of composition, I will first focus on the three 'Student-Focused' works: *Sculpturesque*, *Earthshine* and *Lessons from Mother Earth*. In each of these works, similarities can be drawn in how they were conceived

and realised; yet it is here that the delineation between an educational or emotional focus is most clearly defined.

Sculpturesque, *Earthshine* and *Lessons from Mother Earth* were all commissioned works and a specific educational focus was required from the outset. *Sculpturesque* was commissioned by a PhD student at an American-based university. The student had a younger brother with Down syndrome and desired that the composition be inclusive of musicians with a range of learning capabilities. The music was to include the ability to teach parts aurally as well as offer the opportunity for students of different performance capability to play together. *Earthshine* was commissioned by an American school populated with students only in the 6th Grade. The ensemble had 27 percussionists, limited rehearsal time and all musicians had only been playing for one year. *Lessons from Mother Earth* transpired out of a larger commission project. In 2016 I was commissioned to write four works for a Canadian-based consortium that became known as the *Sound Cradle* project. The consortium required that the works be of different levels of difficulty and adhere to the *First People's Principles of Learning* (http://www.fnesc.ca/wp/wp-content/uploads/2015/09/PUB-LFP-POSTER-Principles-of-Learning-First-Peoples-poster-11x17.pdf accessed September 13, 2019).

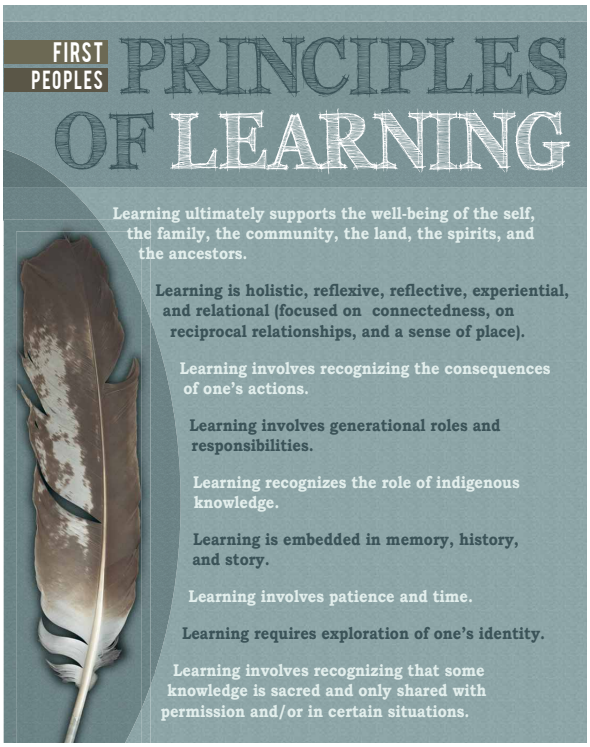


Figure 5-2 – First Peoples Principles of Learning

After studying these principles and Canadian First Nations customs, I decided to use a story-telling approach to my compositions. Hence, I started researching texts for children written by First Nations authors. I began by researching educational resources relevant to British Columbia as the majority of the commissioning consortium were based in that Canadian province. The *First Nations Education Steering Committee Authentic Resource Guide* (http://www.fnesc.ca/authenticresources/ accessed September 15, 2019) soon appeared in my internet search. The guide provides Canadian educators with a detailed list of age-appropriate texts written by First Nations authors. The texts are also linked to non-literary subjects and provide a synopsis about the book and author. From the *First Nations Education Steering Committee Authentic Resource Guide,* I selected eight different texts that I thought appropriate. Once I had purchased and read each text, four were selected:

1. *Lessons from Mother Earth* by Elaine MacLeod with illustrations by Colleen Wood (McLeod, 2002)
2. *13 Moons on Turtles Back* by Joseph Bruchac, Jonathon London with illustrations by Thomas Locker (Bruchac, 1997)
3. *Cloudwalker* by Roy Henry Vickers and Robert Budd (Vickers, 2014)
4. *Peace Dancer* by Roy Henry Vickers and Robert Budd (Vickers, 2016)

Permission to create a musical composition centred on each text was sought from both the authors and publishers before any further work commenced. Once confirmed, a mind-map was created to meld the four texts with componential stages of music education and the *First Peoples Principles of Learning* (see figure 5-3).

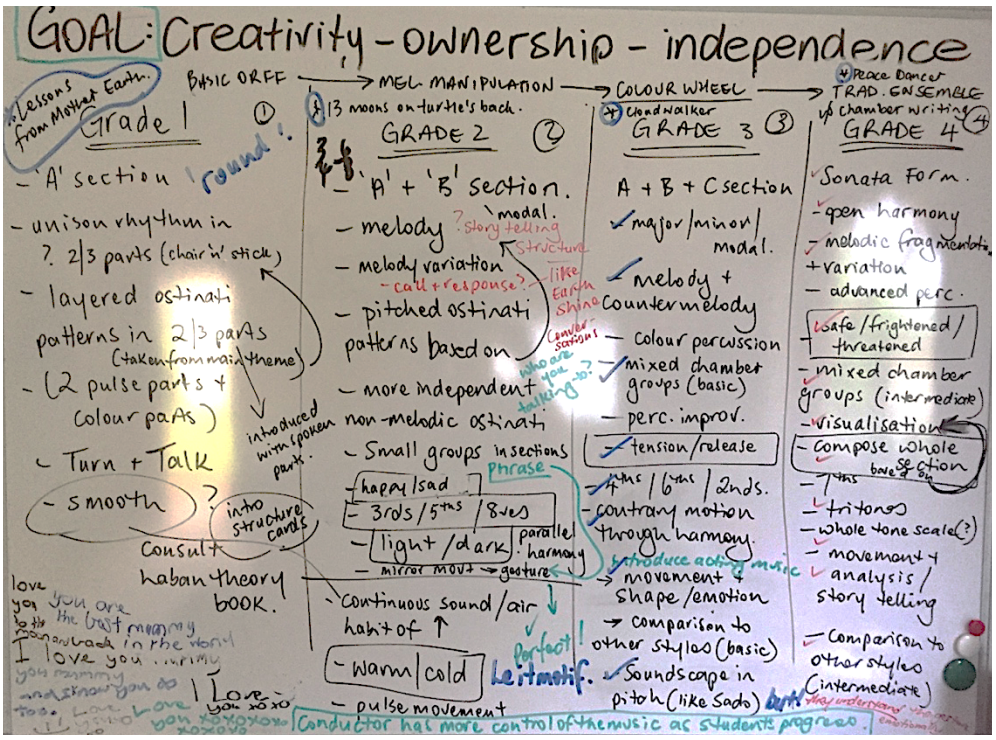


Figure 5-3 – Mind map of works for Sound Cradle

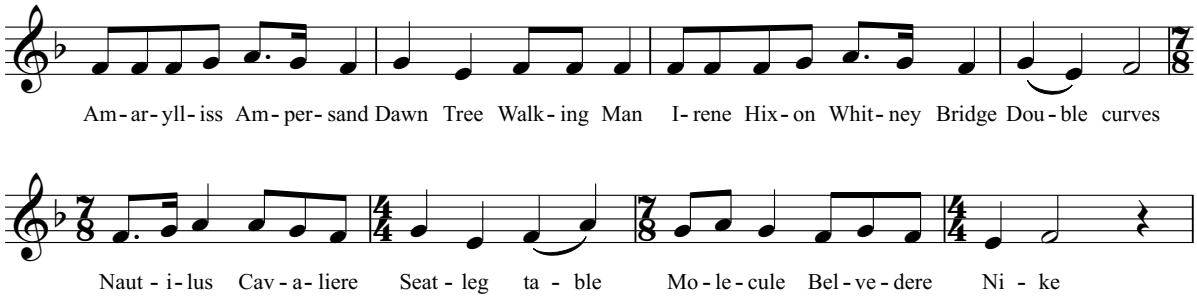
The text *Lessons from Mother Earth* was aimed at students in Kindergarten to Year 2, and it was decided to align the matching composition to students in their first or second year of playing. The following *First Peoples Principles of Learning* were deemed appropriate to book themes and music education goals:

- Learning ultimately supports the well-being of the self, the family, the community, the land, the spirits, and the ancestors.
- Learning is embedded in memory, history and story.
- Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place).

Each of these principles guided pedagogical and musical ideas and greatly impacted on the resulting composition. Like *Lessons from Mother Earth*, *Sculpturesque, Earthshine* also had stipulations provided by the commissioner that ultimately guided the 'germinal idea' for the composition during the *Productive Mood* stage of composition and these consequently had an impact on the musical outcome of each work.

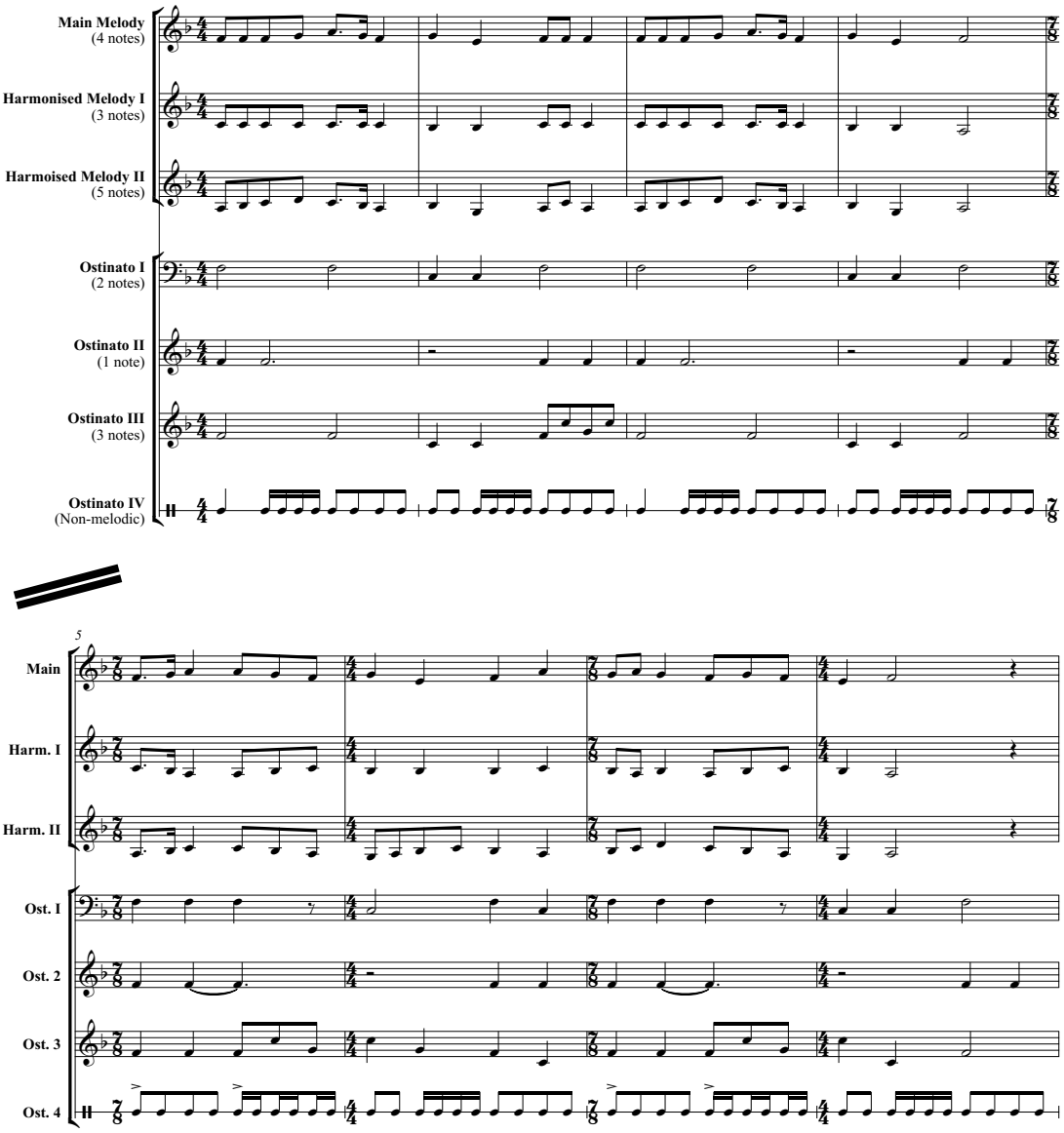
In each case, the educational stipulations strongly guided the formulation of pitch material. To enable an aural teaching methodology in the work *Sculpturesque*, I based the melodic material on a rhythm built around the names of various sculptures featured in a 'sculpture-garden' I had visited whilst in Minneapolis (https://walkerart.org/visit/garden accessed September 16, 2019). The commission stemmed from this part of the United States, and I envisaged students visiting the garden, seeing the sculptures and then learning a piece inspired by them.

The result was the following melody:



Score sample 5-1 – *Sculpturesque* melody (audio available)

The main melody is based on four notes in the pitch range of a fourth. The remainder of the melodic material either harmonises this melody or is written as an ostinato used to accompany the work. The two harmonised parts use either three or five notes (the rhythm remains the same), and the ostinato patterns range from one to three notes with the addition of a complex non-melodic part. In consideration of inclusivity for students with learning difficulties, the repeated patterns are designed to be played in a team atmosphere (like in an Orff-Schulwerk percussion ensemble), with many players are on each part. The range of the melodic and harmonised-melodic parts also align to the beginner range of wind band instruments:



Score sample 5-2 – *Sculpturesque* pitch material, all parts (audio available)

Like many of my works for early years apprenticing musicians, two sets of material are created. The first set of material (called "Know Your Stuff"), enables students to learn the pitch and rhythm. The second set of material places the fundamental pitches into an established composition. In *Sculpturesque*, the first set of material followed on from a series of Orff-Schulwerk-style lessons conducted away from instruments and the traditional band setting. These lessons enabled students of various learning capabilities to learn the seemingly complex rhythm in an aural environment, aided by the use of flash cards. Students then applied this knowledge to the first set of material, where they then learned the pitches that matched the

rhythm. In the structure graphic (see tri-coloured table below in figure 5-4), each letter represents playing through the whole melody one time. If the square is blank, they do not play. When it states "say", students say the words of the chant rhythmically, and "play" simply means to play your part.

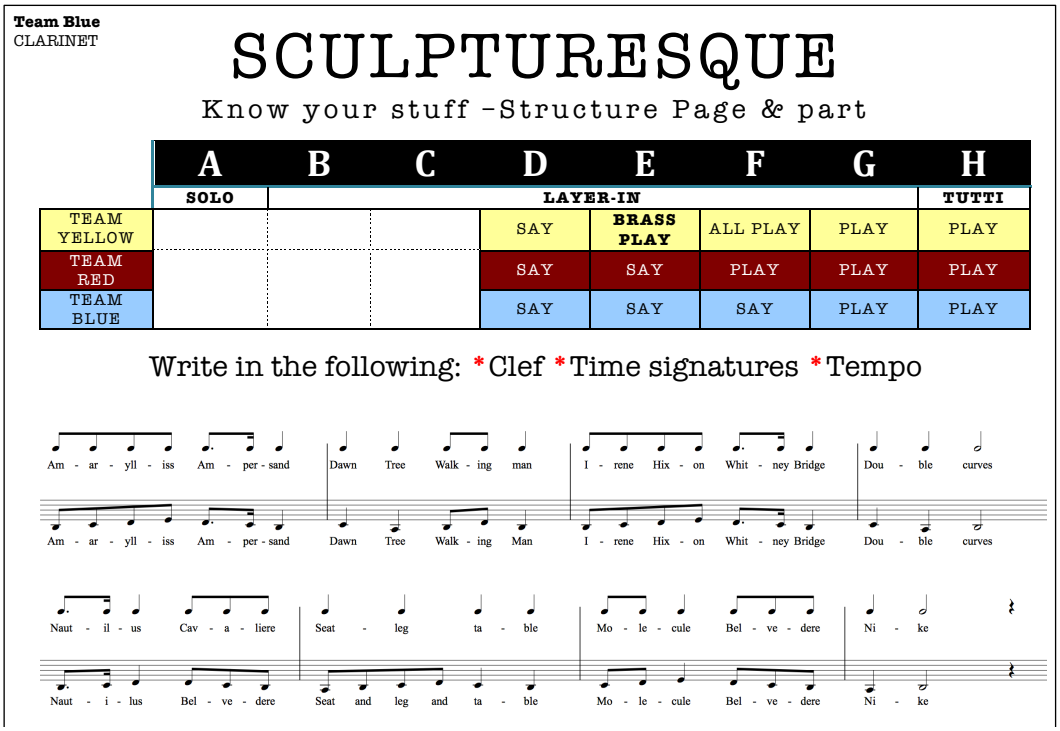


Figure 5-4 – *Sculpturesque* "Know your stuff" part

This approach to the *Know your Stuff* component of the work enabled students to learn the rhythm of the chant in an aural environment. However, the structure graphic was a little confusing and I felt that I needed something that was even more straight forward in future resources. The final model for *Know your stuff*-style resources adopted in *Lessons from Mother Earth* and *13 Moons* (see figure 5-5) allows students to create their own structure, details key, and melody, and provides lyrics to once again assist with rhythm comprehension.

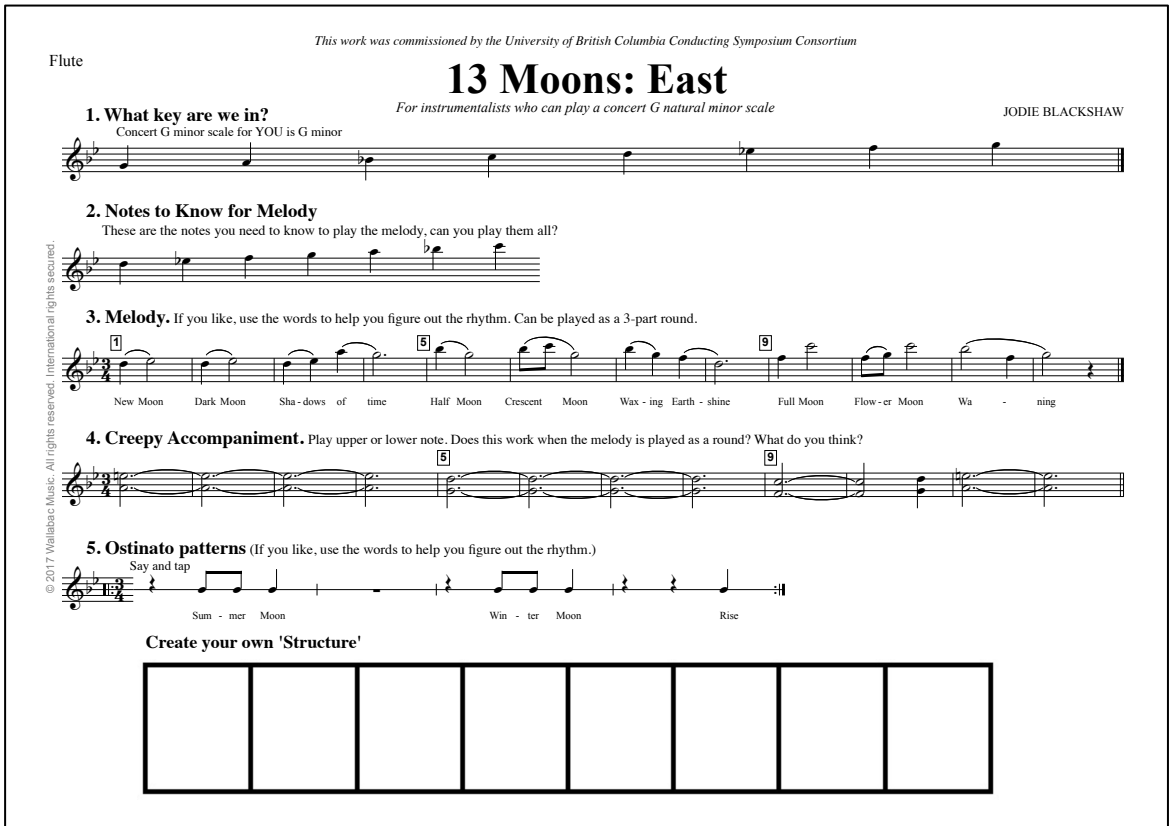
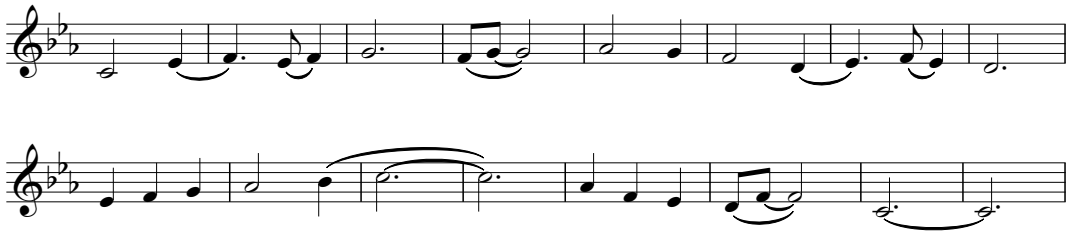
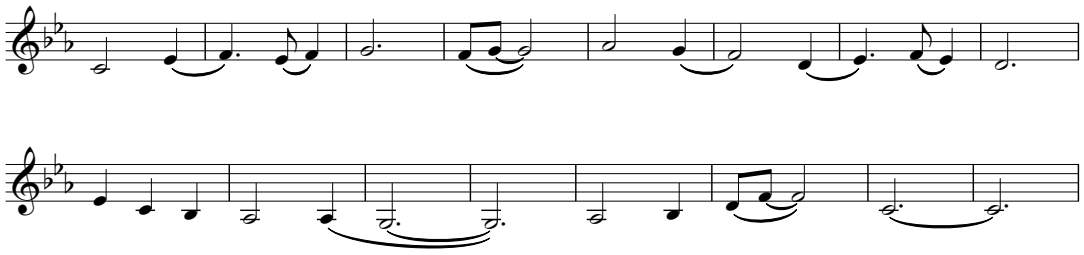


Figure 5-5 – "Know Your Stuff' sample part: format used in *13 Moons* and *Lessons from Mother Earth*

Earthshine adopted a similar approach to *Sculpturesque* in that there were two sets of material provided for the students and their director. The first set was different to *Sculpturesque* in that it enabled the students to learn the fundamental melody composed for the work in a step-by-step process, similar to that adopted in a Method Book (such as Measures of Success by Sheldon, 2010). The second set of material placed the main melody into a performance-style piece. The melodic material for *Earthshine* also considered a limit in pitch range as the students were aged between 11-12 years and had only been playing their instrument for one year. I wanted to create a melody that could be placed into a round, as correlations could be drawn between a musical canon and the scientific phenomena of light reflecting between the Sun, the Earth and Moon, resulting in Earthshine on the Lunar surface. Limited pitch range and capability made this a challenging task, and in the end, I created a variation in the melody to accommodate instrument limitations:



Score sample 5-3 – *Earthshine* melody Version A (audio available)



Score sample 5-4 – *Earthshine* melody Version B (audio available)

Version A of the melody allows for the range of an octave centred on pitch 'C'. Version B of the melody allows for the range of an octave centred on pitch 'G'. Version A sits in a more comfortable range for upper winds, including Flute, Oboe, Clarinet and Alto Saxophone. Version B aligns with Tenor and bass instruments including French Horn, Bassoon, Trombone, Tenor Saxophone and bass reeds. Trumpets, based on their ability and range, can play either melody.

Lessons from Mother Earth adopts a similar approach to *Earthshine* in that a melody that could be played in a round with a limited pitch range was highly desirable. However, in this case, the motivation was not centred solely around wind band instrumentation. For *Lessons from Mother Earth*, I dearly wished that the main melody could be sung by students aged 5-7 years. The original text is aimed at students of this age group and due to the *First People's Principles in Learning* fostering reciprocal relationships, community and the well-being of self, I surmised that students from K-2 could first study the text (pre-written teaching units centred around this text were already available for teachers online), then learn to sing the song inspired by the book's message. To end their unit of study, they could attend a concert given by their neighbouring school's concert band, who would perform *Lessons from Mother Earth* featuring

the song they had learned to sing; thus, achieving the fundamental goals of reciprocal relationships, community and the well-being of self.

The melody therefore needed to be in an achievable singing range for children aged 5-7 years. I already possessed awareness of what this range should be after having taught K-2 choirs in rural Australia in the early years of my music teaching career.

The melody for *Lessons from Mother Earth* went through several modifications. I wrote various different kinds of material and constantly considered how playable and singable they were. At first, the concept of writing a melody that reflected gratitude (both a theme of the text and a cornerstone element of the First People's education principles) guided my thoughts. An internet search into Cree language taught me that gratitude/gratefulness was the word Nanâskomowin and initial melodic meanderings created a melody centred around the rhythm and meaning of the word (http://www.creedictionary.com/ accessed September 19, 2019). I did not need permission to use a word from the Cree language, but explored the possibility of using it as Cree is classified as the language with the highest number of first nations speakers in Canada.

The following examples show my first sketch of the Nanâskomowin melody (see boxed section in figure 5-6) and how it was harmonised into parts for beginning wind band performers:

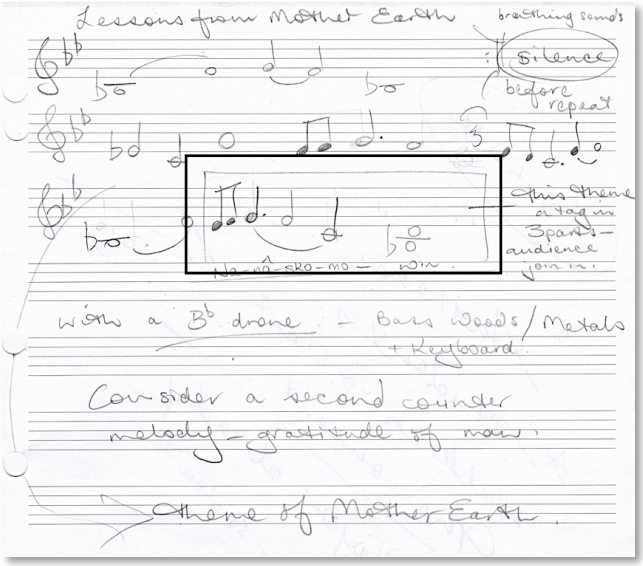
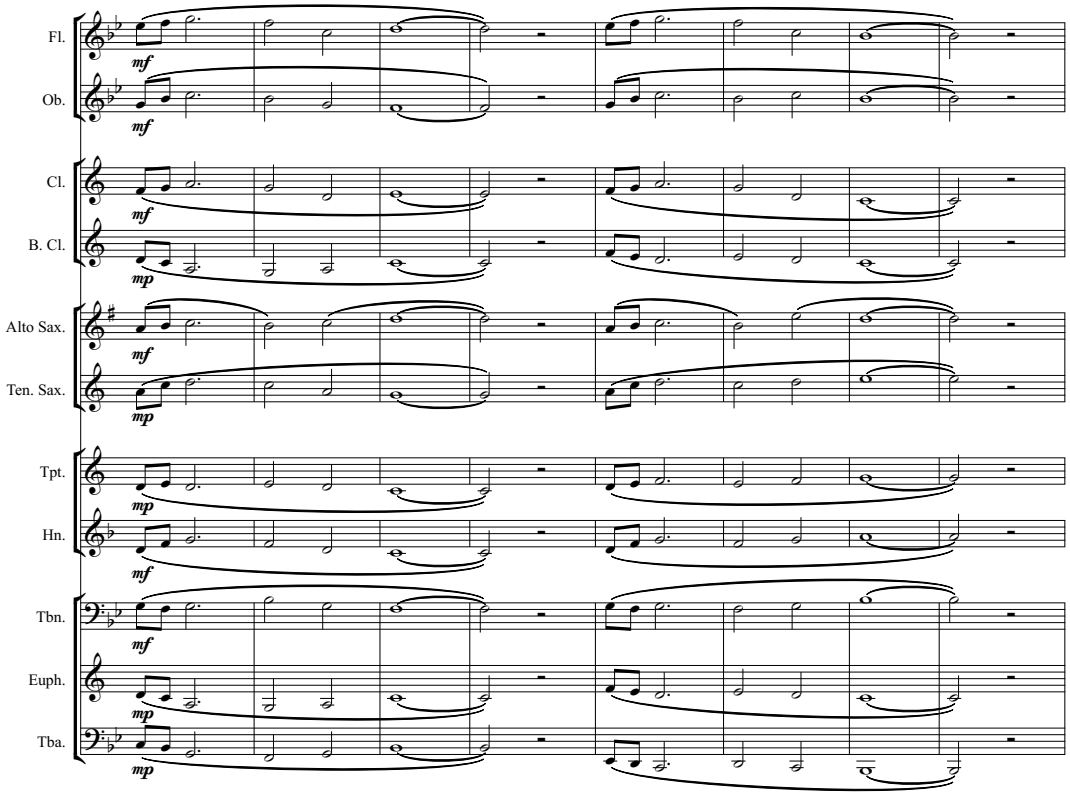


Figure 5-6 – Sketch of first melodic ideas for *Lessons from Mother Earth*



Score sample 5-5 – Notated first melodic ideas for *Lessons from Mother Earth* (audio available)

(Figure 5-6 sketch January 10, 2019, Score sample 5-5 harmonised score, January 19, 2019)

Long tones can be challenging for young players, so I wrote a second theme centred on gratitude and harmonised it into four parts (shown at the bottom of the Figure 5-7):

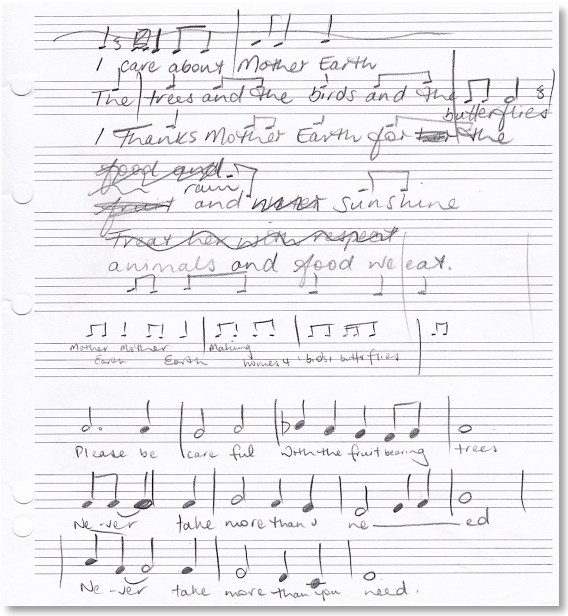
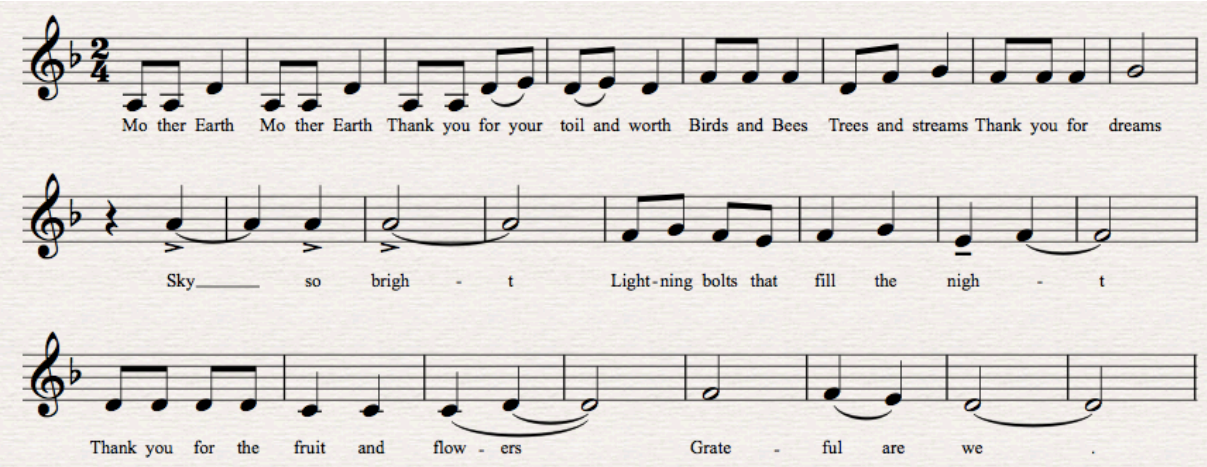


Figure 5-7 – Gratitude theme, *Lessons from Mother Earth*

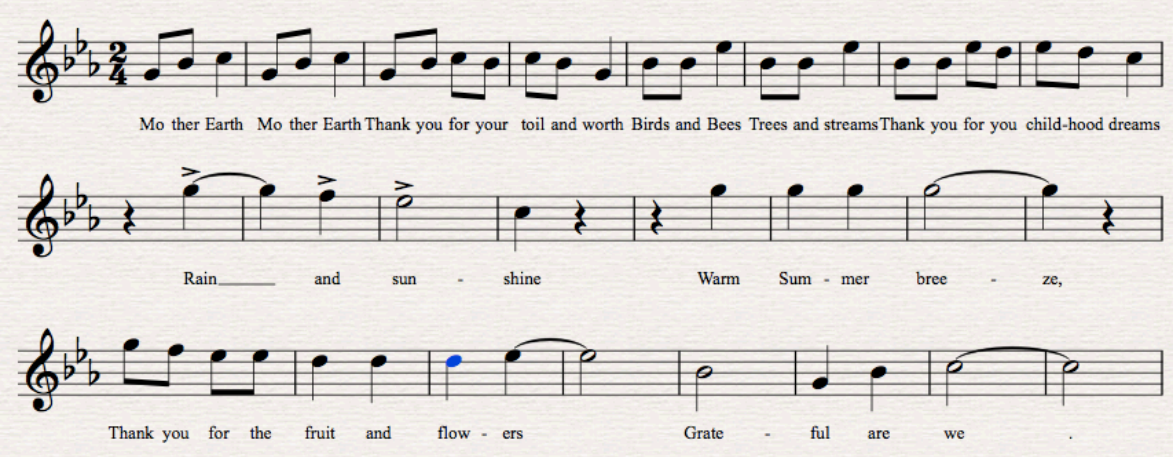
However, each of these themes still proved out of reach for young musicians, particularly the intonation requirements of playing traditional four-part harmony. I also remembered that the choral material I taught to my K-2 choirs was quite repetitive, moved in a step-wise motion and the best lyrics allowed teachers to create easy hand actions to represent them. The rhythm and text written in the middle of figure 5-7 show the first thoughts towards what would become the final melody.

The first iteration of the melody for *Lessons* adopted the key of D minor and had a pitch range of an octave:

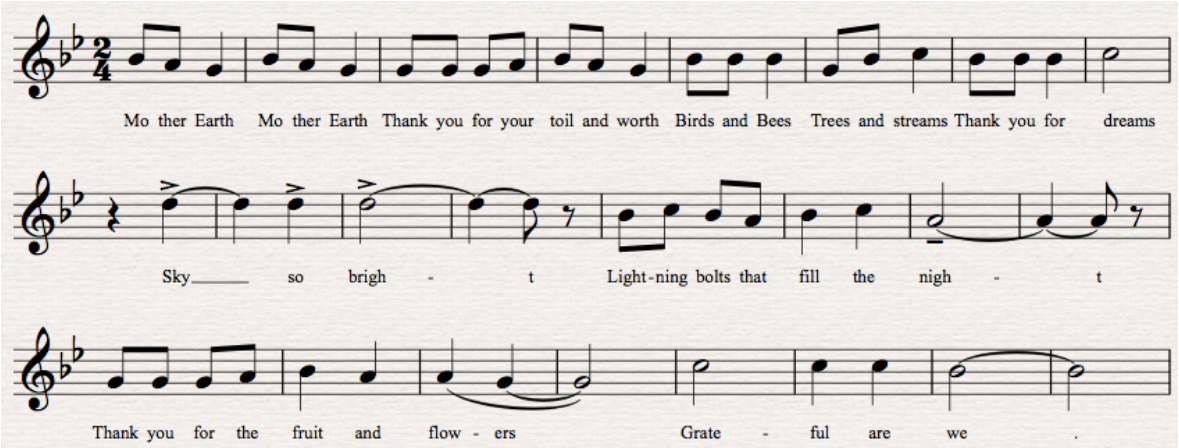


Score sample 5-6 – *Lessons for Mother Earth*, melody (first draft) (audio available)

The lyrics considered hand actions and the placement of phrases considered comfortable places to breathe (the tempo is *Allegro*). Whilst this melody worked successfully in a round, it did not sit comfortably with some instruments (Alto Saxophone in particular) and was too low for K-2 students. The next two iterations of the melody adopted the keys of C minor then G minor respectively:



Score sample 5-7 – *Lessons from Mother Earth*, C minor melody (second draft) (audio available)

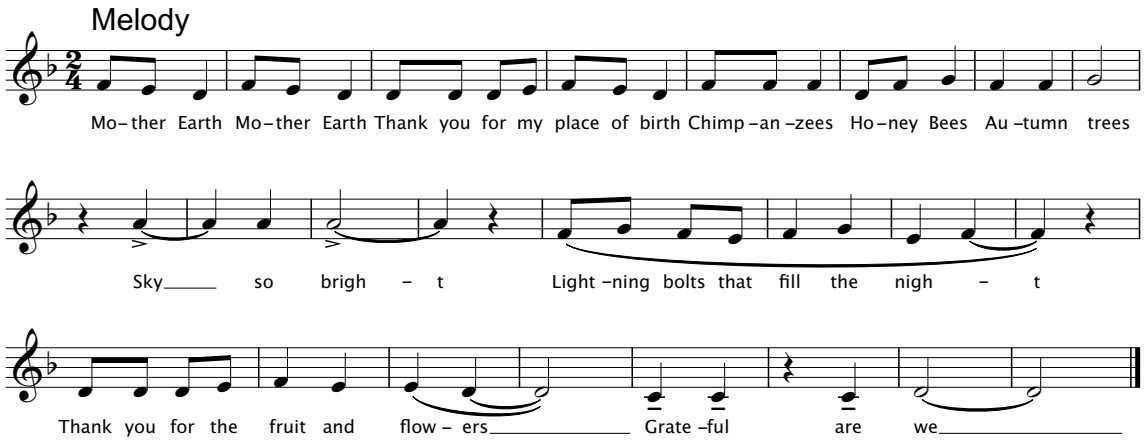


Score sample 5-8 – *Lessons from Mother Earth*, G Minor melody (third draft) (audio available)

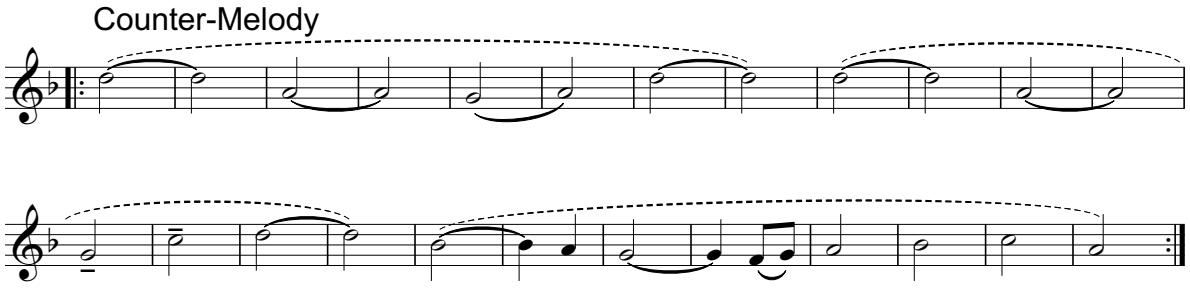
The second draft of the melody adopted a more step-wise approach (easier to sing and play), yet was still based in the range of an octave. The third draft limited the pitch range to a fifth (G-D) and made the melody even more stepwise with fewer interval leaps. However, whilst each of these keys were comfortable for a wide range of band instruments, they were not suitable for young vocalists. I was wondering if I had set myself an impossible task.

After various attempts I returned to D minor and created the following melody with an accompanying counter melody (see score samples 5-9 and 5-10). The melody still provided some challenges for young instrumentalists. The Clarinet players, for example, were required to play a B natural across the break, Flutes had to move to the lower octave to play C, and I had to write an alternative part for French Horn players to keep them in a playable range. However, the melody was easily singable for K-2 players and apart from a few minor

alterations, the majority of players in a young wind band could manage either the melody, counter melody, or both.



Score sample 5-9 – *Lessons from Mother Earth*, final melody (audio available)



Score sample 5-10 – Lessons for Mother Earth, counter melody

In each of these pieces, the development of the melodic material was governed by educational requirements. Unlike *Peace Dancer*, where a state of flow was provided after a series of improvisatory sessions followed by transcriptions, the melodic material here was rigidly tested again and again for each and every instrument of the ensemble to ensure it was playable. Additional factors came into play with each piece. In *Sculpturesque* I was considering students with learning challenges and catering for a wide range of capabilities. In *Earthshine*, my target group were students of one age group and a large percussion section. For *Lessons from Mother Earth*, I needed to create melodic material that would suit both K-2 vocalists, as well as wind and brass players in their first or second year of playing. In *Lessons from Mother Earth* it was important to me that the key remain the same for both groups, so that the students, when attending the concert, would not only recognise the melody, but sing along. Thus, in

each case, a commitment to educational, and not emotional, considerations were paramount. The result was the creation of three *Student-Focused, Process-orientated* compositions.

The 'colour-first' influence on *Student-Focused, Process-Orientated* compositions

Even when creating works that are focused on educational outcomes, the 'colour-first' aspect of my compositional approach is prominent. In all three *student-focused pieces* two sets of material are provided. The first enabled students to learn the basic pitch material in a step-by-step process. In each case, the layout of the first set of material changed and over time, became more focused on the elements of timbre, texture and form. *Sculpturesque* and *Earthshine* each utilised a *colour-wheel* score compositional approach and *Lessons from Mother Earth* adopts more of a *composing piece* strategy. The second set of material for each work is aimed at placing pitch material into a more traditional style composition.

In *colour-wheel* scores, utilised by the *student-focused* works *Sculpturesque* and *Earthshine*, we see the practical application of a 'colour-first' approach that encompass pedagogical goals pertaining to rehearsal strategy, seating plan theory and creativity, whilst also adopting timbral compositional components that meet both an educational and artistic inspired musical goal. A *colour-wheel* score divides the ensemble into teams and provides each with a visual colour designation. During rehearsal, these teams (chamber groups), sit together in a circular formation to enhance timbral/tonal blend and ensemble cohesion. An example of this exists in the work, *Earthshine.*

Earthshine

As *Earthshine* was written for students in the 6th grade, the colour teams were mostly limited to instruments from the same family or in the same pitch range (for example Team Yellow: Flutes/Oboe, Team Orange: Alto Saxophone, Team Purple: Trumpets and French Horns). This scoring approach enabled students to sit in the aforementioned seating arrangement and learn to play their part within a circular team environment. Here is the seating layout for the colour-wheel score, *Earthshine*:

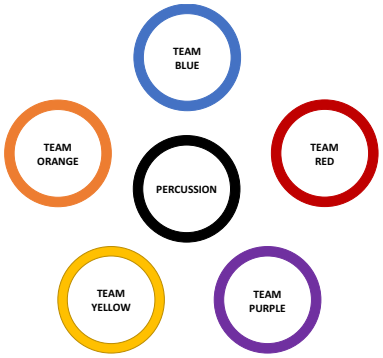
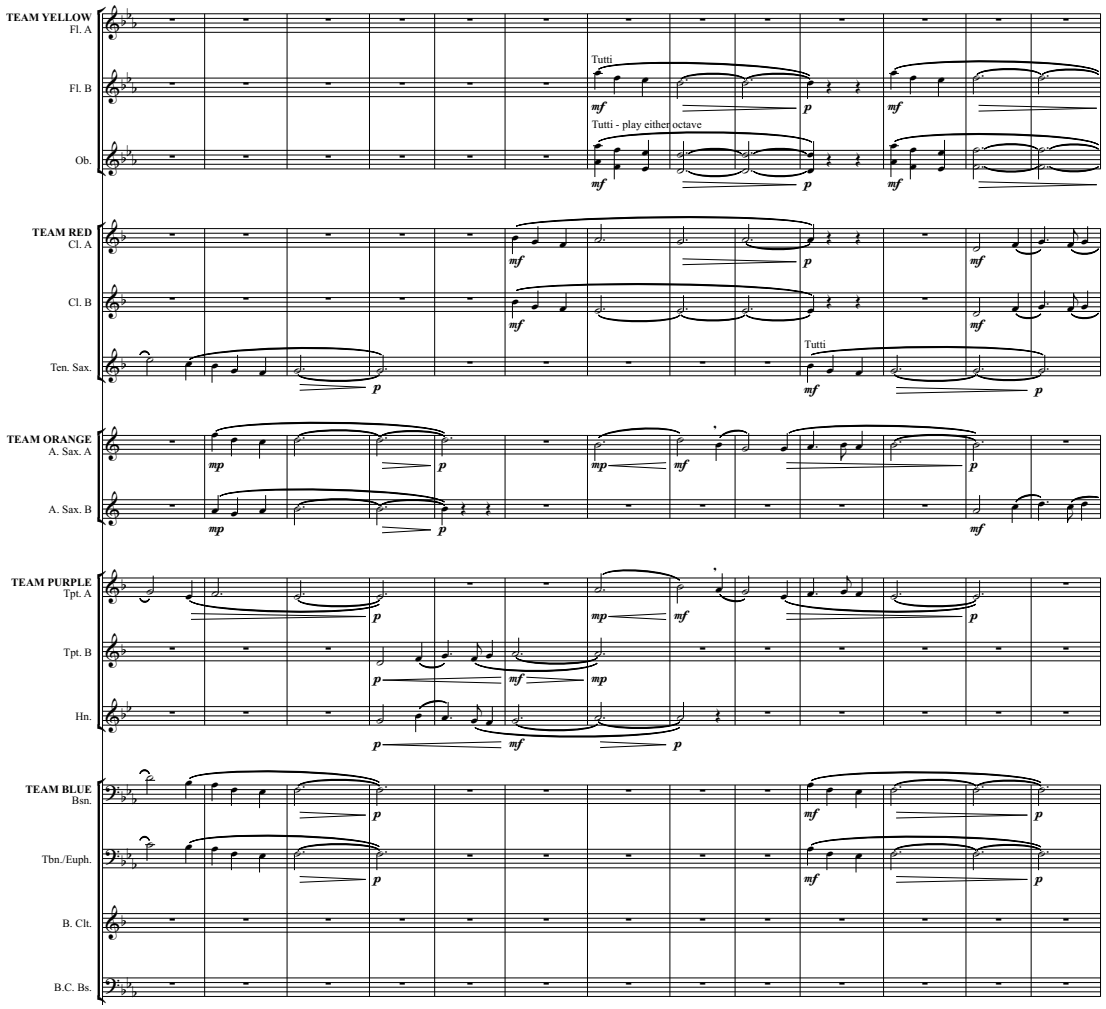


Figure 5-8 – *Earthshine* colour-wheel rehearsal seating plan

Sitting in circles is identified in seating plan theory as a highly effective form of communication and collaboration:

> Classroom or talking circles, which are commonly used in outdoor and classroom learning settings, help foster respect, listening, self-esteem, and increase thoughtful discussion. (St Onge, 2017, p. 8)

Score sample 5-11 shows the extended use of call and response between the teams (inspired by the scientific phenomena of *Earthshine*, where light sourced from the Sun, reflects off the surface of the Moon, onto Earth and then back to the Moon again). At times, timbral blends either stay within the same team (measure 30, Alto Saxophones) or cross-pollinate (measure 35, Alto Saxophone and Trumpet).



Score sample 5-11 – *Earthshine* score page 4, measure 29-41, colour teams and reflection

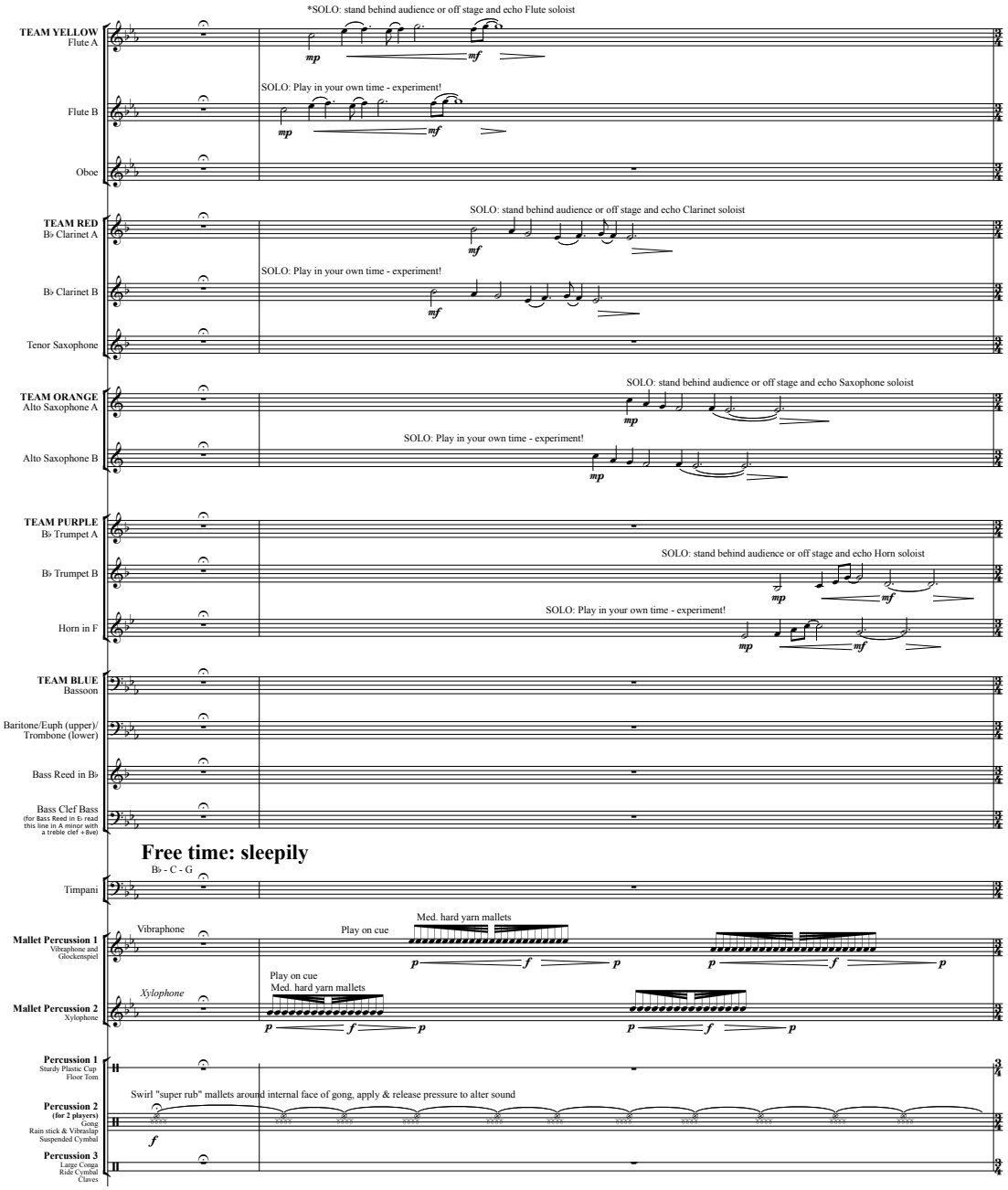
Rehearsing in a colour-wheel formation not only provides opportunities for students to feel more secure in playing their part, it also enables greater textural complexity as students are able to work together to realise the placement of their melodic lines.

Here is the form of *Earthshine*:

Bars 1-2	**Bars 3-10**	**Bars 11-57**	**Bars 58-69**	**Bars 70-85**	**Bars 86-104**	**Bars 105-145**	**Bars 146-end**
Free time: first statement of melody	*Bridge*	*Layering of ostinato and melodic fragments*	*Timpani Solo, NASA samples and body percussion*	*Percussion layer-in*	*Solo for any instrument*	*Four-part round + percussion*	*Layer-out of melodic fragments and percussion*

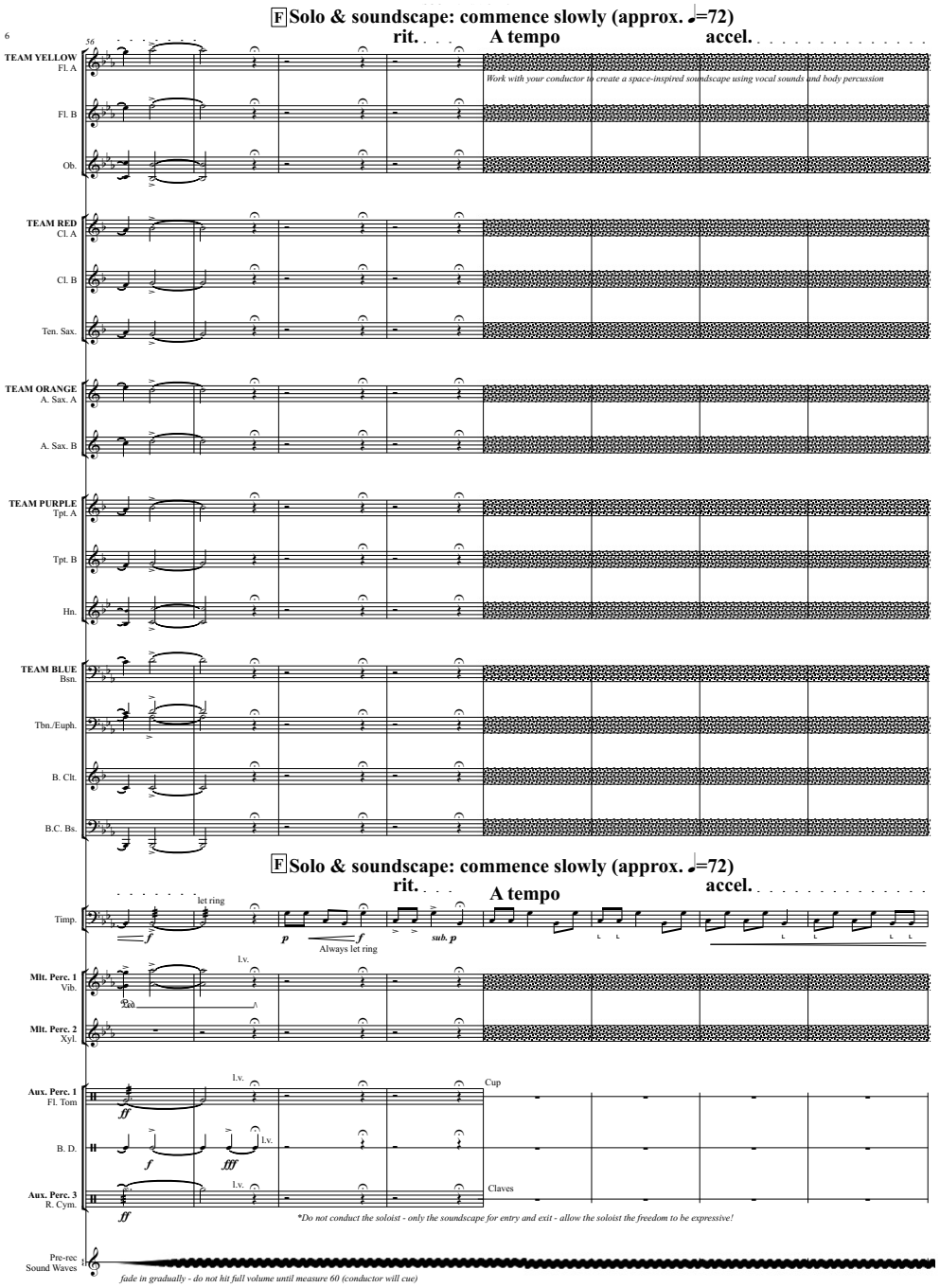
Table 5-3 – Form of *Earthshine*

The opening statement of the melody is inspired by the reflective properties of *Earthshine*. In the opening measures, each phrase is played by two players, the second 'reflecting' the first. The reflection is continued throughout the ensemble as each phrase is played by a different section of the ensemble providing both timbral and spatial variations. Percussion parts provide resonance and additional colour:



Score sample 5-12 – Earthshine score page 1 (audio available)

At measure 56, ensembles are encouraged to select and download one sound sample as recorded in space by the American National Aeronautics and Space Administration (NASA). The sound samples are available for free through Soundcloud: (https://soundcloud.com/nasa/sets/spookyspacesounds accessed September 17, 2019) and underpin the timpani solo. Students have the option to further contribute to the timbral soundscape with body percussion and/or vocal sounds:



Score sample 5-13 – Earthshine, score sample page 6, measures 56-63

Here, directors are encouraged to associate student learning about the lunar surface with the work, providing contextualisation. This learning process aligns with my own 'Productive Mood' component of composition, where research is carried out to guide the creative process. Fundamentally what I have striven to achieve, is for ensembles to research aspects of the moon, and have this information feed their creative decisions regarding timbral contributions. In effect, I have provided a creative process for composing through a 'colour-first' lens in a large ensemble learning environment.

Sculpturesque

In *Sculpturesque* a different approach was taken to produce compositional variation. The work also utilises one set of pitch material; therefore, changing the pitch material was inappropriate as it produced significant learning obstacles. Once again, I utilised timbre and texture to create musical deviation.

The basic form of *Sculpturesque* is:

Bars 1-40	Bars 41-48	Bars 49-56	Bars 57-64	Bars 65-72	Bars 73-81
Layer-in: melodic/harmonic lines and ostinato patterns	*Percussion Soli*	*Sing:* All upper woodwind and brass players sing their part	*Own Choice:* students select which parts should play	*All play soft*: all performers play their instrument gently	*All play strong*: all performers play with a full, strong tone

Table 5-4 – Form of *Sculpturesque*

At measure 57, students are given the opportunity to compose with timbre through the selection of instrumental combinations. To make this a seamless exercise for teachers (and remembering the need to keep this work attainable for students with learning difficulties), an 'easy to understand' stencil was created and printed on the back of individual instrumental parts (see figure 5-9). The stencil may also be handed out to audience members:

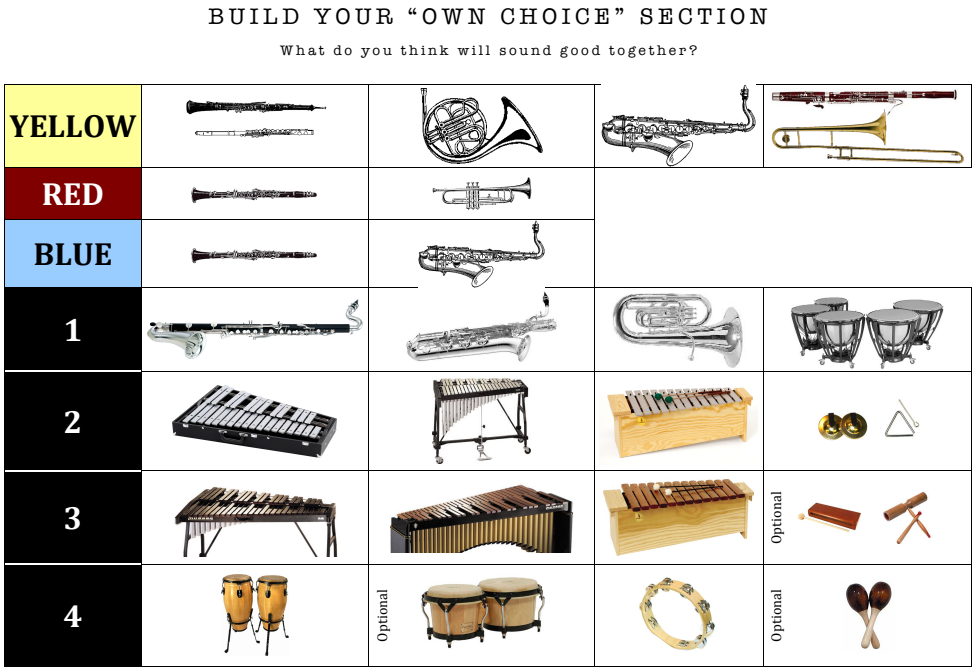


Figure 5-9 – Own Choice stencil for *Sculpturesque*

Each row of the stencil represents different instrumental parts, some being melodic and some representing ostinato accompaniment. Any person (be they a member of the ensemble or audience) may select any combination of instruments. The instruments chosen would then play for eight measures at rehearsal marking 'H' (bar 57). Students (and audience members) are thus able to select differing combinations and the section may be repeated as many times as deemed appropriate. This tool teaches the fundamentals of composing through a timbral lens and is accessible by any person. Interestingly, this is exactly how I used to experiment on the Yamaha Electone Organ – I would play the same material repeatedly using different timbral blends. In effect, I was encouraging students to use the ensemble as a large, multifaceted Organ.

Lessons from Mother Earth

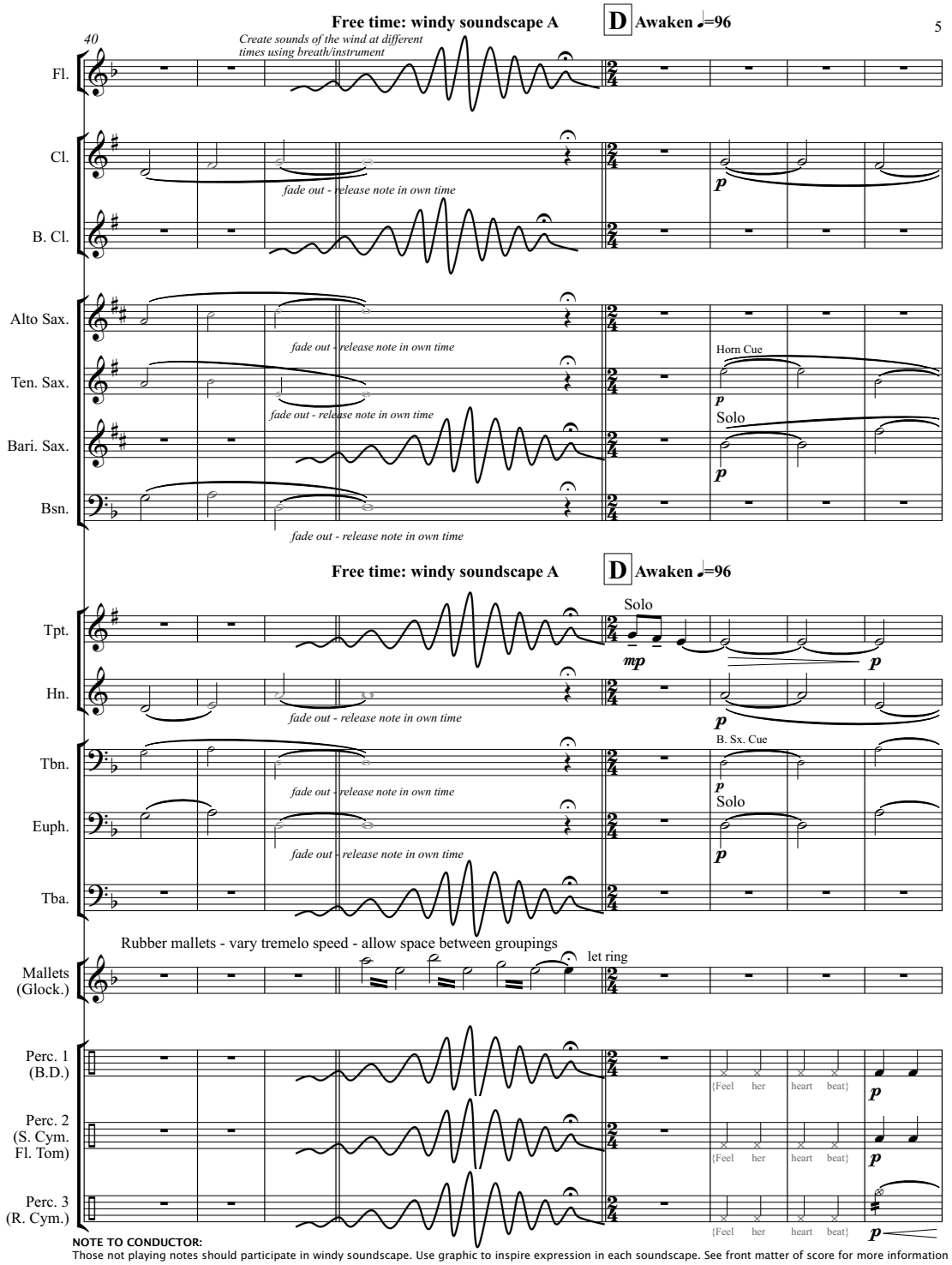
Lessons from Mother Earth takes a different compositional approach as the form of the work is guided by the text upon which the composition is based. The story describes a day in the life of a young girl whose Grandmother teaches her how to sustainably harvest foods from the wilderness. Hence, I adopted the structure of a day to guide the overall composition of the work, and this is reflected in the score markings:

Bar 1	Bar 44	Bar 71	Bar 111	Bar 123	Bar 235
First light	Awaken	Move, stretch, embrace	Seize the day	Carefully and confidently	Time to rest

Table 5-5 – Form of *Lessons from Mother Earth*

To capture the mood and spirit of the text that are punctuated by elegant water-colour illustrations, the opening and closing textures are sparse, and embrace yet another approach to 'colour-first' composition; this time through soundscape. When creating *Lessons from Mother Earth*, I envisaged lying in bed and stirring from sleep during the very early hours of the morning. I wondered what sounds I would hear and decided that the murmuring of the wind, accompanied by garden wind chimes (that I had in my own garden) would not only be an appropriate timbre, but would also provide an additional opportunity for young audience members to be involved in the performance of the composition. Additionally, instrumentalists whisper "Feel her heartbeat" in crotchets and punctuate these with a tap on the chest in the opening measures ("First light"). This opening figure not only provides a timbral connection to those moments when one first awakens, it also provides a pedagogical opportunity to establish tempo from the outset of the performance.

The windy soundscapes are represented by a wavy line (see score sample 5-14). Each time the *windy soundscape* appears (measures 42, 69 and 250), the graphic is altered to encourage students to once again compose through 'colour-first' eyes. Students produce wind sounds using their mouths either into the air or through their instrument. Air speed and variation is individual but collective decisions should be made as an ensemble to ensure that each soundscape is different and matches the energy of the time of day it represents.



Score sample 5-14 – *Lessons from Mother Earth*, soundscape graphic measure 42 (audio available)

In each of these works, the focus of the composition has been on achieving the educational stipulations requested from the commissioner. The creation of pitch material was heavily influenced, in each instance, by the capability of the performers and the educational goal.

Each work provided the ensemble with two sets of material, one that provided the opportunity to learn how to play the pitch material, and the second, a performance setting of that material. Each piece successfully achieves the requirements laid out, yet the formulation of each work is wholly focused on educational outcomes. Whilst elements of creativity, particularly pertaining to a 'colour-first' approach are also utilised, the final compositions do not possess the usual emotional attachment apparent in other compositions. Nor is that required, as these works are *student-focused*, *process-orientated* works and teach students many different aspects of ensemble playing and composition through the eyes of a 'colour-first' composer-educator.

Chapter 6
The 'Colour-first' composer-educator

During the course of the PhD I have asked myself the following question:

Are you an educator, who composes music with educational goals in mind? Or are you a composer, who composes music that adheres to educational limitations, whilst maintaining a 'colour-first' approach?

Upon reviewing my own compositional approach, I have not only discovered that I am capable of writing music from both a compositional and educational perspective, I have also ascertained where, in my own process, that delineation was made. When emotional intent was engaged during the initial stages of composition, the outcome was a *performance-orientated*, artistic, musical expression. When no emotional connection was made during the initial creative stage, the outcome was a *process-orientated*, educationally focused work, ideal for teaching and learning. Thus, I surmise that for me personally, it is emotional intent that holds the key to the outcome of a work being either process or performance orientated.

The Creation of Exploratory/Concert-Works through a 'colour-first' educational lens

The three remaining works composed for apprenticing musicians are *Letter from Sado, 13 Moons* and *Catango 5*. In terms of genre, *Letter from Sado* and *13 Moons* both combine pedagogical and artistic goals and fall into the *Exploratory* component of *Product-orientated* performance works. *Catango 5*, whilst possessing *student-focused* elements, is predominantly a concert-work that brings together a professional saxophone quartet with a more advanced apprenticing ensemble. Indeed, the sections of *Catango 5* that could be considered *student-focused* possess the same quasi-improvised fragments that also exist in *Letter from Sado,*

Lessons from Mother Earth and *Earthshine*, yet they are utilised as timbral gestures, rather than for any specific pedagogical purpose. Whilst each of these compositions stem from an alternate 'germinal idea' and compositional approach, their main point of difference to *student-focused* works exists within the emotional construct of the 'germinal idea'.

Catango 5

Catango 5 and *Lessons from Mother Earth* have been categorised as collaborative works for apprenticing musicians. The collaborative element of *Lessons from Mother Earth* stems from the mentoring component of the *First Peoples Principles of Learning*. In this case, collaboration is achieved through young apprenticing musicians sharing their performance with Kindergarten-Grade 2 students who had studied the text *Lessons from Mother Earth* (McLeod, 2002), and then learned to sing the melody that was featured in the work. In *Catango 5*, focus is placed toward a different kind of collaboration; this time it exists between a professional saxophone quartet and a top-tier apprenticing wind band. The collaborative element is central to the work. In this case, I have not adopted a "concerto grosso" style of composition. Instead, I have considered the professional saxophone quartet as principal performers of the ensemble who, at times, withdraw as just a quartet for more virtuosic moments.

The initial idea for *Catango 5* was formed around watching my young cat *Vinnie* in the garden. Try as he might, he was simply unable to catch a bird. At first this piece was entitled 'Vinnie's Lament' and a short tango was written as the starting point for the work. From here, the work grew into a piece about the five cats I have owned in my lifetime. *White Puss, Tiger, Phoenix, Lexi* and *Vinnie* all had their own unique personalities and I paired these personality traits to literary characters or infamous historical figures. The goal was to invite latter years' high school students to do more than simply follow expressive markings and play correct notes. I wanted them to invest themselves personally by attaching character and animation to their interpretation of each section. With this in mind, I selected figures that could be considered caricatures: Machiavelli, Nimrod, James Bond, Alice in Wonderland and a nameless, fragile stray.

For this work, I wanted the piece to remain exciting and my initial mind-map had the words "fun to play" in the central location. From here, two more mind-maps pieced together musical considerations (key, instrumentation and colour) with elements of feline characteristics such as hunting, stalking, sleeping and pride:

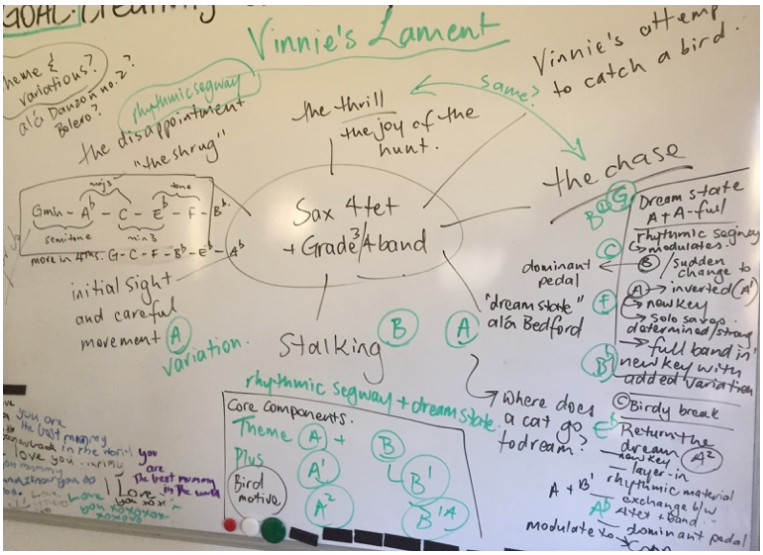


Figure 6-1 – Early mind map of *Catango 5*

Whilst building this mind-map I reviewed the work *Danzon No. 2* (Márquez, 1998) by Mexican composer Arturo Marquez (b. 1950). I was captivated by the energy of this piece and wanted to ascertain how the composer built excitement and maintained interest. My analysis revealed a constantly changing key signature, usually in the step of a fourth. It was not usual for me to consider key structure so early in the creation of a work, but as I had never attempted a work of this nature before, and I was capturing the processes used by Marquez, I decided it was time to try something new. Hence, I adopted a model that produced changes in tone colour through key signature and melodic variation. The initial movement in key appears in the left, and right-hand side of the mind-map:

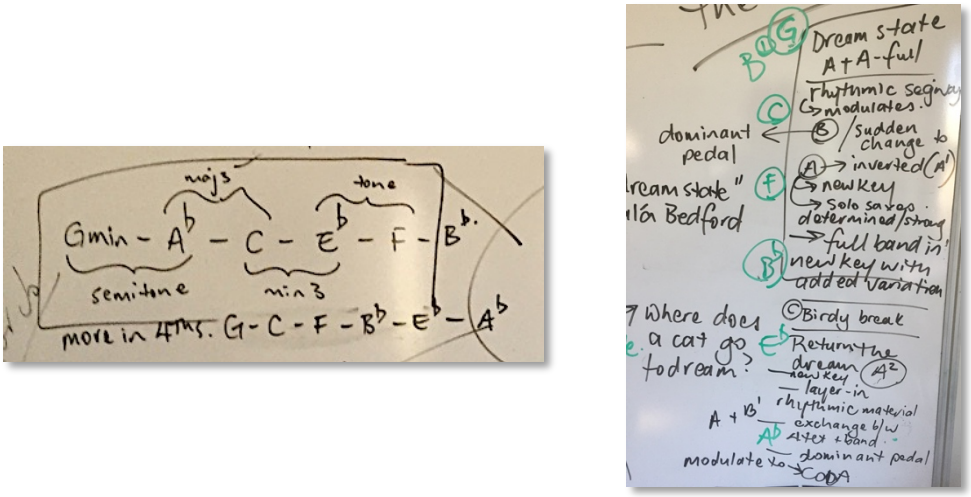


Figure 6-2 – Close-up of key construct for *Catango 5* detailed in mind map

From this mind map I created a drawing of the overall structure of the work that navigated through these key-orientated feline expressions:

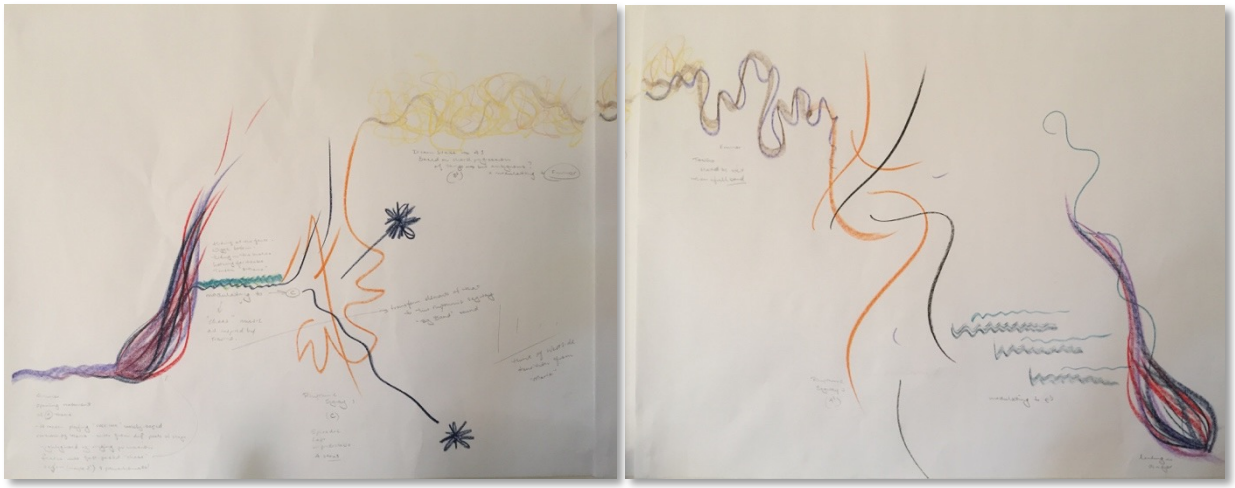


Figure 6-3 – Structure drawing of *Catango 5*

The study of the Marquez, a Cuban/Mexican dance, and other forms of Tango, research into the traits of chosen characters and the examination of my own cats in their natural habitat during the 'Productive Mood' compositional stage, all contributed to the realisation of pitch material and the form of the work created during the stage of 'Musical Conception'. The inclusion of a "dream state" inspired a side-step from the original plan of moving in fourths (as shown in figure 6-2), utilising a modulation from the dominant G minor through a G major-

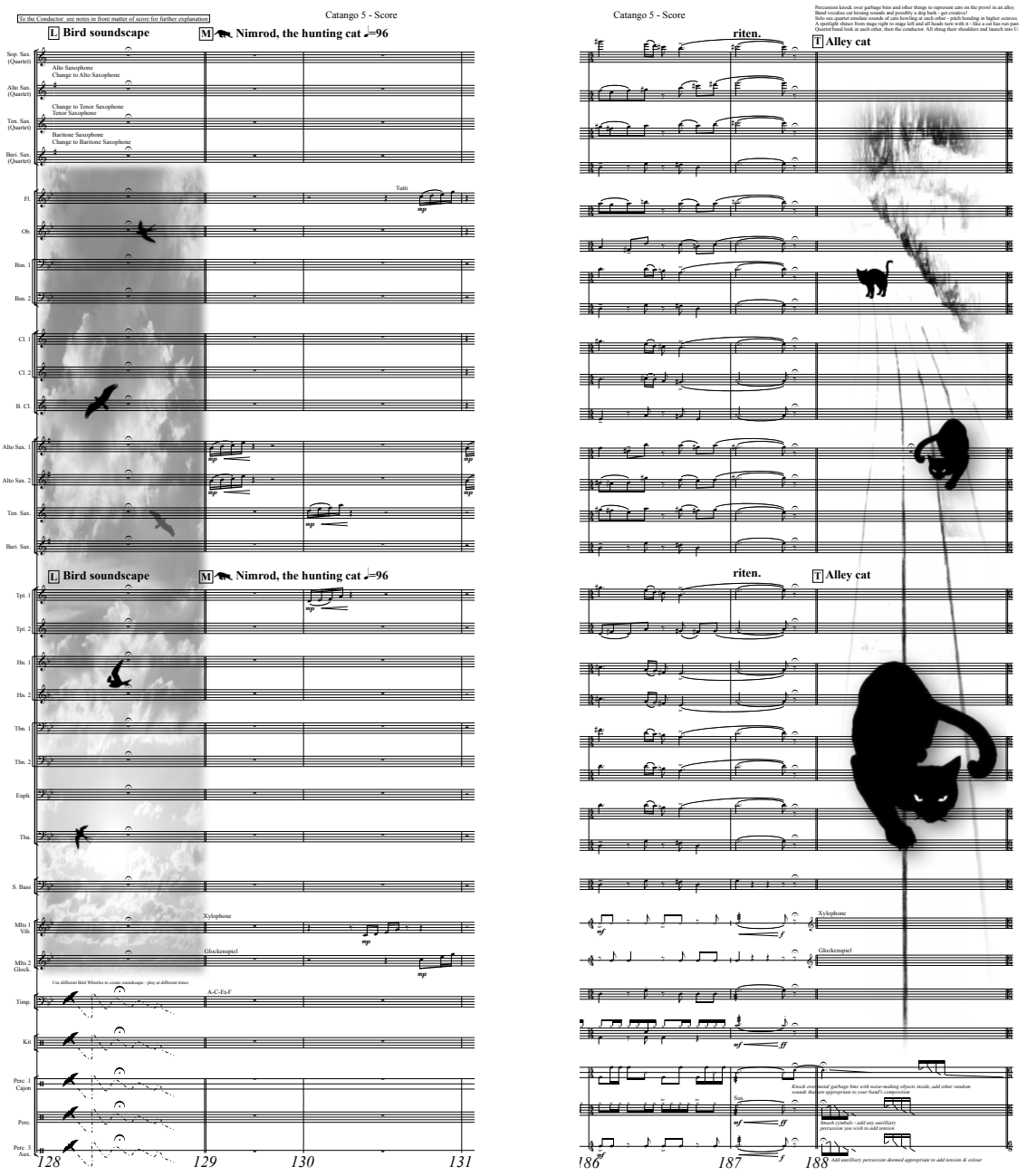
D major-E major progression to guide the listener to A major in bar 67. The final form of the piece is not dissimilar to the initial considerations detailed in figure 6-2:

Bar:	1	31	67	96	129	140	157	164
Score detail:	A lonely, hungry, no-name stray	Machiavellian Cat	The cat who dreams like Alice	Floatingly (for 4 x sop. saxes and vibes)	Nimrod, the hunting cat	Catch. that. mouse		Cat. Shaken, not stirred
Key:	G minor	C minor	A major	B flat	B flat	F minor	E minor	B flat (Dorian mode)

Table 6-1 – Form of *Catango 5*

The 'colour-first' approach appears throughout *Catango 5*, either through the change in tone colour and instrumentation with each character, the plethora of percussion used to punctuate changes in mood and timbre or the *student-focused* components including the two soundscapes at measure 128 and 188 (see score sample 6-1). In each of the soundscapes, images are used in the score and parts to inspire creativity (one representing a cat hearing birds upon awakening from a dream and the other, two cats having a fight in an alley way). Little formal direction is provided.

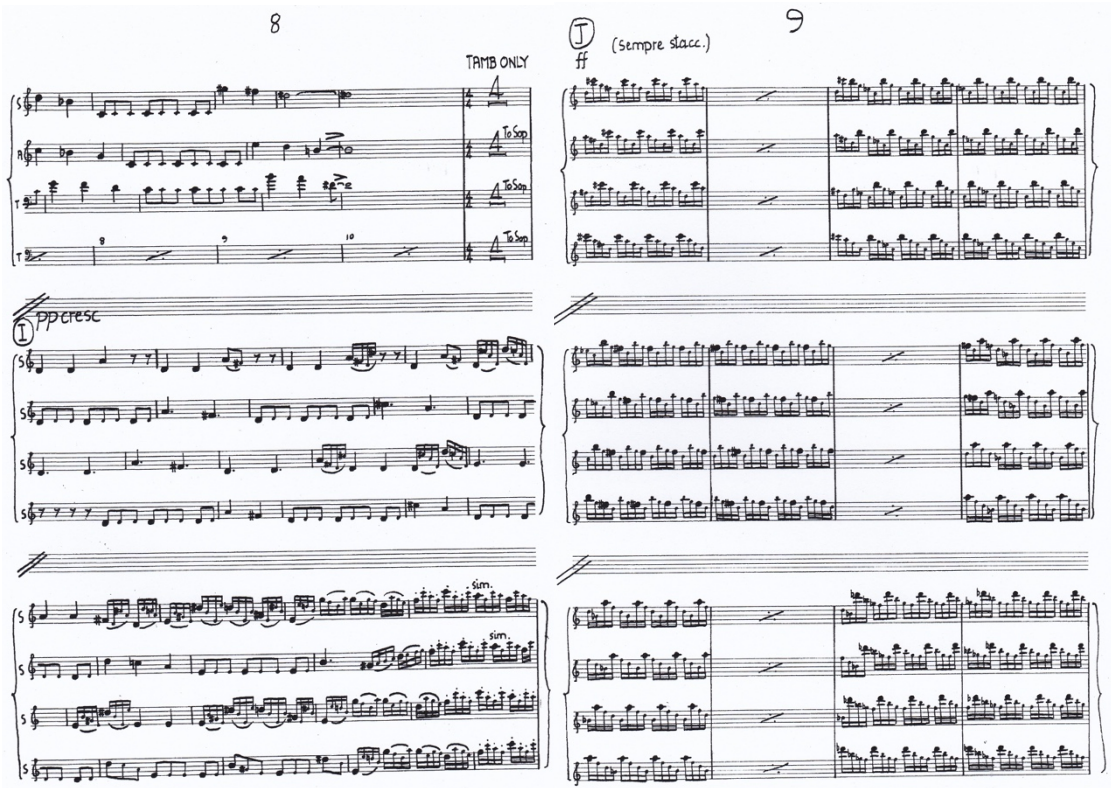
Once again, I am utilising the creative approach taken during the 'Productive Mood' and providing 'big picture' ideas to inspire band members to formulate their own compositional approach to these soundscapes. The target group are also more proficient musicians, so fewer directions were deemed necessary (and may also be inhibiting to creative exploration).



Score sample 6-1 – Soundscape score graphics pages 15 and 24

Another 'colour-first' moment occurs in *Catango 5*. In the "Floatingly" section at bar 96, all professional saxophonists are featured on Soprano Saxophone. I have held this tone colour in my mind for some time and it is a demonstrable example of hearing specific tone colours, storing them in memory, and then utilising them when appropriate. In 1996, I was first introduced to an album recorded by the Apollo Saxophone Quartet called "First and

Foremost" (Apollo, 1994). On this album, I became captivated by a work composed by British composer David Bedford called "Fridiof Kennings" (Bedford, 1998). Bedford calls for each saxophone quartet member to play all four saxophones and the players cycle through them throughout the work. Around the four-minute mark, Bedford calls for all quartet members to play the Soprano Saxophone, accompanied only by a pulsing tambourine. The quartet are revolving through notes of the same chord, with each player emphasising the same note at different times (Bedford chose not to use traditional accents here, but to simply enlarge the note-head of the note requiring emphasis):

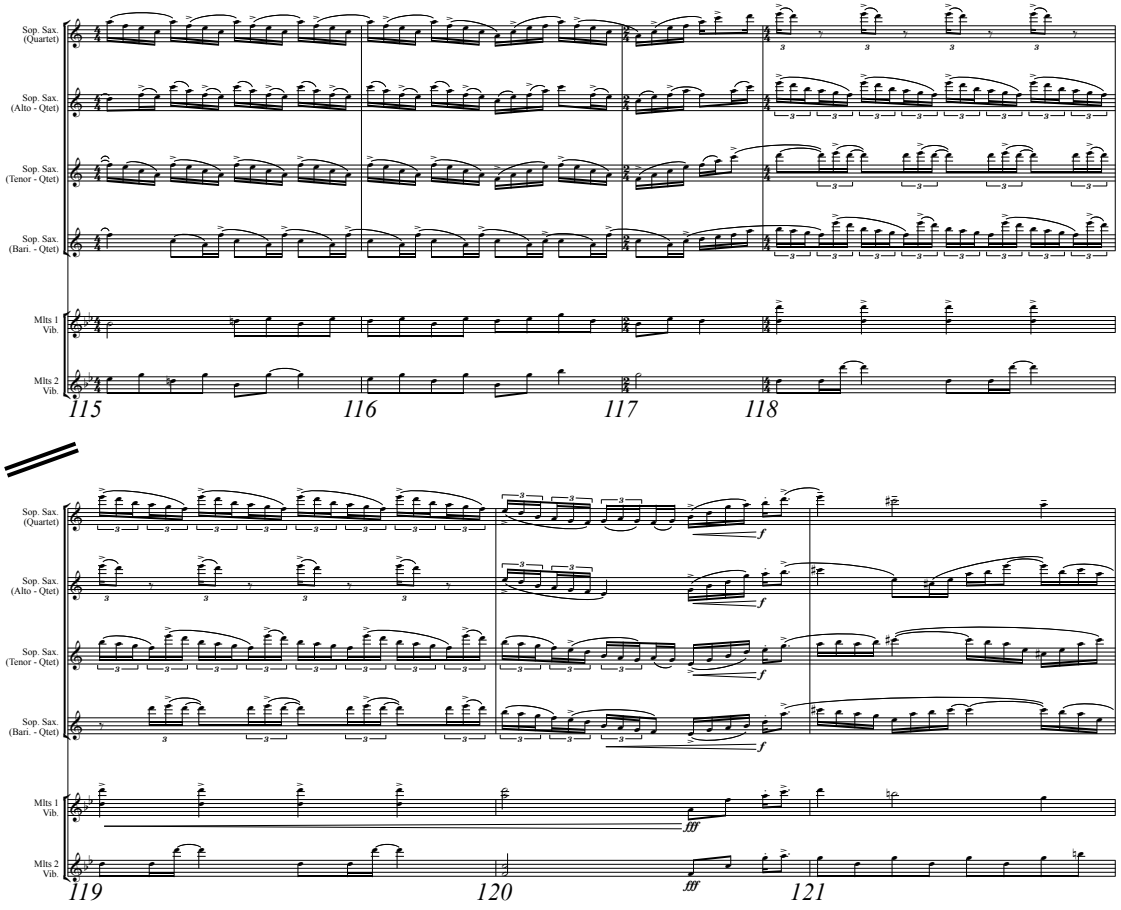


Score sample 6-2 – *Fridiof Kennings* score pages 8/9 by David Bedford (audio available)

(click image for You Tube link, 4 bar tambourine break commences at 3' 12")

Before I had even begun composing *Catango 5,* I knew that I wanted to somehow utilise this colour (a demonstrable example of thinking and storing tone colour imagery). As most felines spend a large proportion of each day in slumber, I decided to include a 'dream state' that would happily align to the well-known Lewis Carroll character, Alice, and her remarkable dream-state adventures in the text *Alice in Wonderland* (Carroll, 2009, first published 1865). In addition to the inspiration provided by Bedford's multiphasic harmonic expressions, I also

researched the dream patterns of cats (Dement, 1958). The pitch material used in this section demonstrates my ongoing fascination with major seven chord structures, the Bedford Soprano Saxophone tone colour and the brain wave patterns of cats during their rapid eye movement (REM) sleep cycle. Cats, like humans, have sleep stages, including rapid eye-movement sleep. This alters the brain wave patterns from slower moving alpha and theta waves to more active brain wave patterns that are similar to those found when awake. With this in mind, the quartet, all on Soprano Saxophones, firstly glide through multiphasic representations of one chord. The phased melodic lines, belonging to each soloist, then become more diverse and sporadic. At measure 120, the quartet joins together with the two vibraphones on the third beat to represent the cat beginning to stir from REM sleep, preparing the audience for the next phase of the work:



Score sample 6-3 – *A cat who dreams like Alice*, measures 115-121 (audio available)

for four Soprano Saxophones and two vibraphones: Catango 5 score page 24

When creating pitch material for *Catango 5*, I was completely emotionally attached to the process with limited consideration for educational parameters. The pitch material was created using the improvisation/transcription/improvisation methodology discussed in Chapter Four. The material was guided by early concepts of modulations that became attached to the personality of my cats who were then aligned to famous historical figures or literary characters. The personal connection was formed from the outset, as I was representing my own beloved felines. This, coupled with the enhanced fascination of research in feline brain waves during sleep, and the educational goal of inspiring apprenticing musicians to play with enhanced animation and personality, informed the creation of *Catango 5*, a concert work for apprenticing musicians and professional saxophone quartet.

Letter from Sado

Letter from Sado was commissioned in 2014 by the American Composer's Forum for their Bandquest series (https://composersforum.org/bandquest/ accessed September 17, 2019). It was also the very first *colour-wheel* score (see Chapter Five, pp. 110). The only stipulation made by the American Composer's Forum was that the piece should be aimed at students in their second or third year of playing in a wind band. Free of other limitations, such as those imposed for *Sculpturesque*, *Earthshine* and *Lessons from Mother Earth*, I was able to research and select material for inspiration from a wider collection of material. Ultimately, I chose haiku poetry as a central theme as many Western literacy programs associated with the same age group (Grades 7-9, students aged 12-15 years) studied this Japanese artform.

Early research into haiku poetry revealed a resource that demonstrated multiple English translations of the same Japanese haiku by Matsuo Bashō (1644-1694), created by David Landis Barnhill (https://www.uwosh.edu/facstaff/barnhill/es-244-basho/hokku.pdf accessed September 18, 2019). I instantly saw the opportunity to draw a correlation between the multiplicity of translations and varied musical interpretation, and settled on the following haiku with this particular English translation by Barnhill:

Japanese	English translation
ara umi ya sado ni yokotau ama no gawa	stormy sea: stretching over Sado, Heaven's River

Table 6-2 – Haiku that inspired *Letter from Sado*

From here, I researched everything I could about Bashō including historical significance and the difference between the poem's denotation and connotations (Hiraga, 1998). Research revealed much about Bashō, the historical significance of Sado Island and the underlying message of the haiku. In the time that Bashō wrote this particular haiku (during his travelling period 1684-1689) (Matsuo, 2004), prominent Japanese figures who rubbed against the constabulary where exiled to the Island, including Buddhist monk Nichiren Shonin (1222-1282) (Stone, 1999). The 'stormy sea' was an allegory pertaining to the social storm surrounding a person's dereliction, and 'Heaven's River' represented not only a still, starry night, but inner peace, discovered during a person's time in exile. In addition to research into the significance of the haiku, I also researched Sado Island. Situated off the West coast of Japan, I discovered many inspiring images of the island and learned of the unusual topography: two mountain peaks with a central plain. Air currents between the surrounding oceans result in a unique tranquillity around the mountain peaks, creating a permanent misty atmosphere.

I became emotionally attached to the narrative surrounding the haiku, the historical figures who were exiled to the island and the beautiful imagery of the island itself. I sketched a basic structure of the work in my *Letter from Sado* notebook, inspired by the form of the haiku:

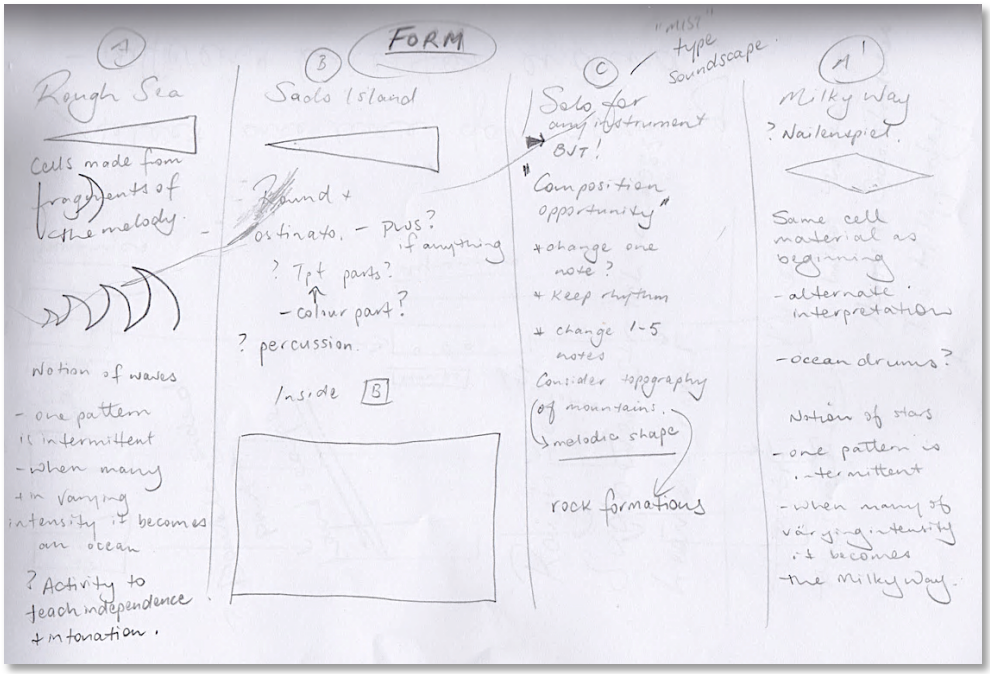


Figure 6-4 – *Letter from Sado* structure sketch

The sketch in figure 6-4 demonstrates a fusion between educational and compositional conceptions. Firstly, relationships between form are expressed either in graphic or articulated forms. For example, see Section 'C', "consider topography of mountains/rock formations [for] melodic shape". Secondly, educational considerations are made, such as phrases like "activity to teach independence + intonation". Thirdly, timbral ideas are suggested that are either specific or non-specific including, "mist type soundscape", "ocean drums" and "notion of waves/notion of stars".

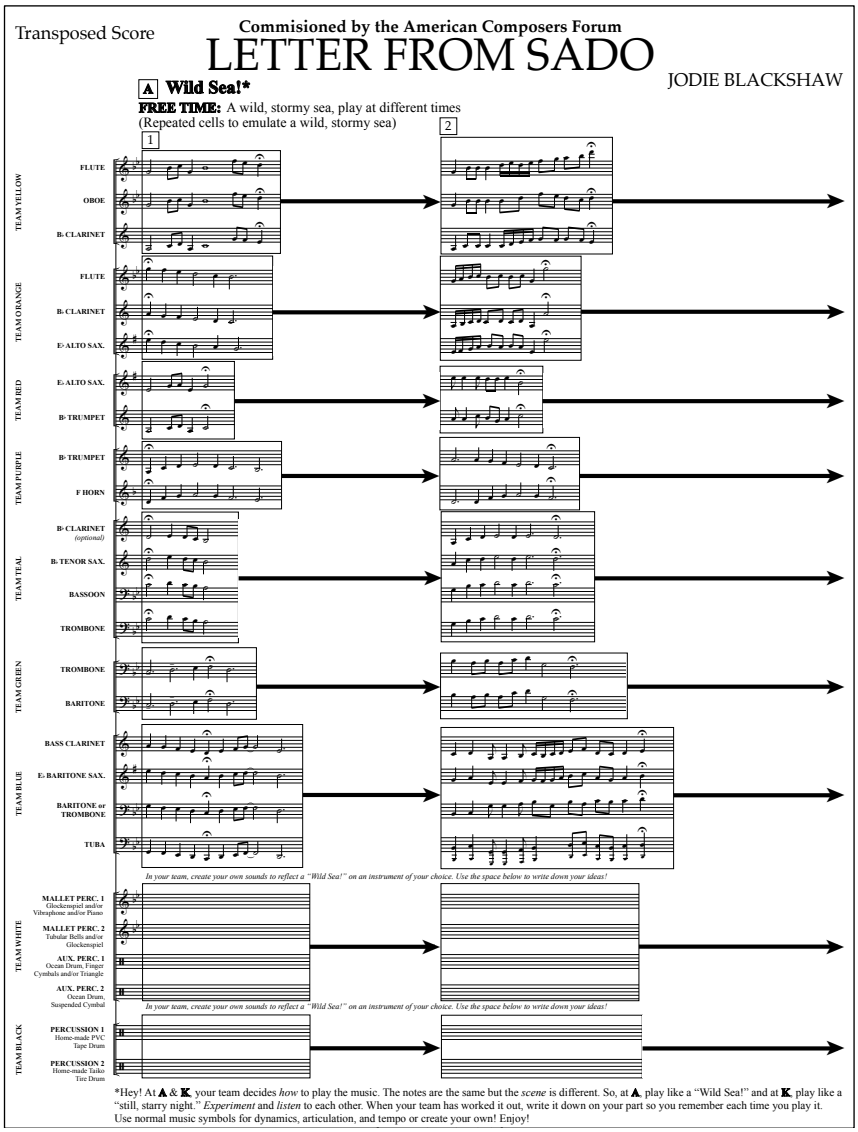
The basic form represented in figure 6-4 remained and the final structure of *Letter from Sado* also reflects the narrative of Bashō's haiku (much like *Lessons from Mother Earth* that also utilised the structure of the text upon which it was based):

A	B (bar 1)	D (bar 25)	J (bar 83)	K (bar 88)
Wild Sea! FREE TIME: A wild, stormy sea. Repeat cells to emulate a wild, stormy sea.	A lone 130stinato, looking out to the Isle of Sado	Strong, with resilience and intensity	Soundscape: create a soundscape inspired by the misty mountain peaks of Sado Island	Heaven's River FREE TIME: A still, starry night. Repeat cells to emulate a still, starry night.

Table 6-3 – Form of *Letter from Sado*

The overall concept of *Letter from Sado* stemmed from an emotionally driven, 'colour-first' *Productive Mood* that embraced the emotional message of Bashō's haiku. I considered the emotions surrounding a person being exiled, reflected simplistically by Bashō as a 'stormy sea'. I also considered how these emotions would change over time after learning that many people exiled to the island found a sense of inner peace during their isolation.

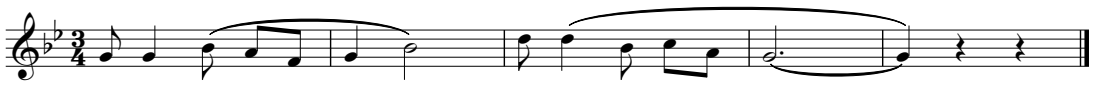
Emotional change was reflected in the use of pitch material throughout the work, and this was achieved through a 'colour-first' perspective. To encourage students to attach themselves to the emotional contrast of the beginning and end of a person's exile to Sado, melodic fragments from the central metered section (commencing at bar 25) were distributed throughout the ensemble in repeatable boxes. The same fragments appear at the beginning and end of the work. However, at the beginning, students are asked to use the material to create the feeling of a "wild sea". At the end of the work, they use the material to emulate a "still, starry night". Percussion can select any instrument they deem appropriate.



Score sample 6-4 – Letter from Sado, boxed notation

On each of these occasions, students are provided the opportunity to compose through a 'colour-first lens'. The inspiration to do so comes directly from the haiku poem, as well as the geographical aspects of Sado Island.

In the metered section of the work, the colour-wheel score is used in full effect. A theme referred to as "freedom" is peppered throughout the colour teams at different times.



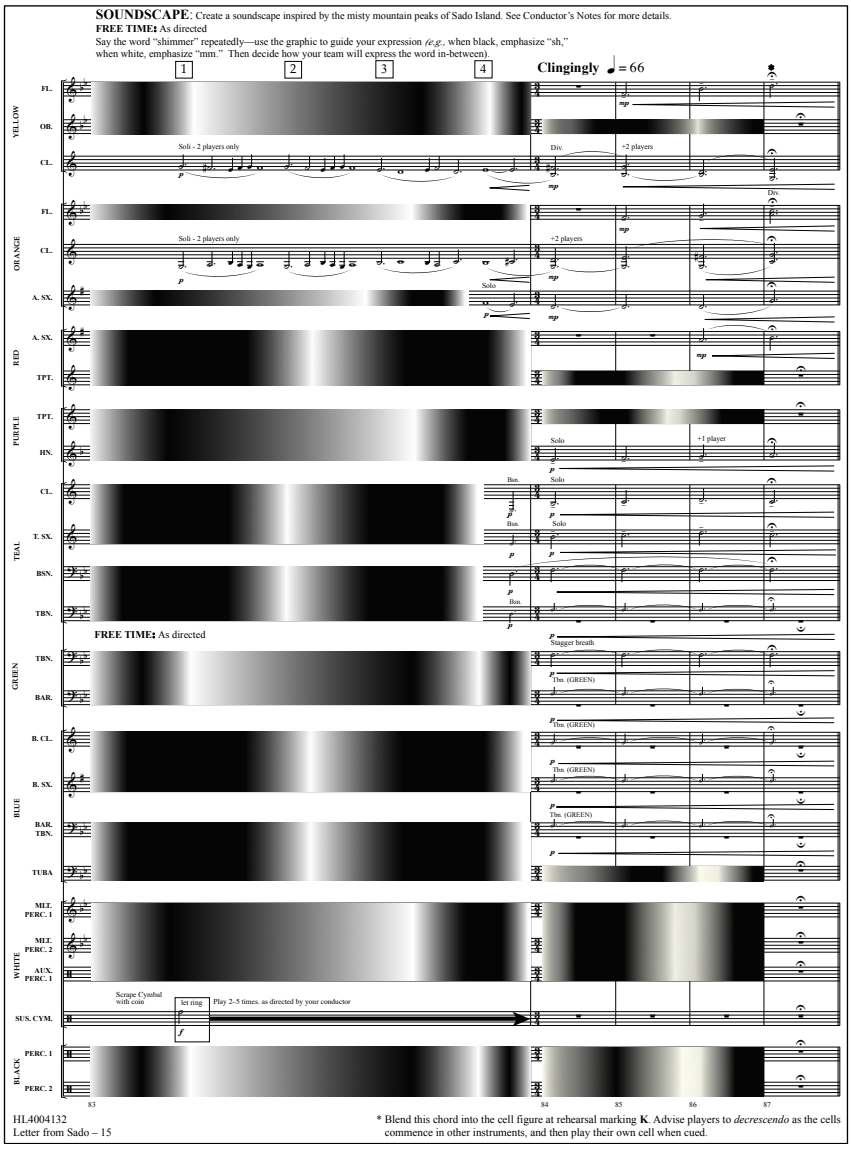
Score sample 6-5 – *Letter from Sado*, freedom theme

Between measures 26 and 81 the *freedom* theme appears 7 times:

1. Measure 45: Team Orange (Flute, Clarinet and Alto Saxophone)
2. Measure 53: Team Red and Purple (Alto Saxophone, Trumpet and Horn)
3. Measure 57: Team Yellow (Flute, Oboe, Clarinet)
4. Measure 58: Team Orange (Flute, Clarinet and Alto Saxophone)
5. Measure 67: Team Red and Team Teal (Alto Saxophone, Trumpet, Clarinet, Tenor Saxophone, Bassoon, Trombone)
6. Measure 68: Team Green (Trombone, Euphonium/Baritone)
7. Measure 73: Teams Yellow, Orange, Red, Purple, Teal and Green

The use of this motif represents the thought patterns of a person sent into exile. The increase in the appearance of the theme, both in frequency and timbral/textural density, represents an intensification of emotional unity. Whilst there are multiple lines occurring throughout this section, the unison figure at measure 73 reflects a unification of thoughts and emotions centred on the *freedom* motif. Freedom from judgement, freedom from anger, freedom from fear.

The strong unison moment is instantly relieved by a cymbal roll and an atmospheric, vocalised soundscape. Whilst measure 83 represented my infatuation with the beauty of the island itself, (with particular regard for the photographs of ancient trees on misty mountains), I also wrote this section with the idea of emotional release. Once a person had freed themselves from anger, judgement and fear, peace and tranquillity would remain. Hence, I melded the concept of the 'misty' mountains with the emotional state of equanimity, and composed a soundscape that onomatopoeically utilised the word "Shimmer" (performers use their voices and rest instruments on laps):



Score sample 6-6 – *Letter from Sado*, "misty" soundscape, measure 83 (audio available)

To achieve this section, colour teams are encouraged to experiment with their expression of the word 'shimmer', focussing on different syllabic sounds. Once again, I have provided an opportunity for apprenticing musicians to compose through a 'colour-first' lens with timbre and expressive techniques.

Letter from Sado doubles as an educational tool and performance work and is a demonstrable example of an *exploratory* piece that fuses educational and emotional intent through a 'colour-first' composition process.

13 Moons – the ultimate fusion of the 'colour-first' composer and educator

13 Moons was a piece associated with the Canadian Sound Cradle commission and embraced the following *First Nation's Principles of Learning*:

- Learning ultimately supports the well-being of the self, the family, the community, the land, the spirits, and the ancestors.
- Learning is embedded in memory, history and story
- Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place).
- Learning involves generational roles and responsibilities.
- Learning involves patience and time.

The piece was inspired by the text *Thirteen Moons on Turtle's Back* (Bruchac, 1997). In some Native American customs, the turtle's shell hosts 13 scales, each representing a phase of the moon. The moon phases are associated with seasonal change and Bruchac's text represents 13 different Native American tribal perspectives, one for each phase of the moon. The illustrations provided by Thomas London are exquisite and each tribal narrative features interactions between humans and their natural environment, punctuated by important lessons gained through observance and reverence.

The *13 Moons* text instantly leant itself to a resource that allowed students to compose with pre-determined pitch material. My experience with *Sculpturesque* had demonstrated the success of composing with timbre in large ensembles; however, to ensure the results were more like a performance work, rather than a learning exercise, emotional context was required. *13 Moons on Turtles Back* provided that context and allowed students to either select a story from the book for their inspiration or bounce from the text and create either a story of their own, or be guided by a personal experience centred around the moon. I had become aware of the importance of personal connection during the *Productive Mood* stage of the creative process and wanted to make this a part of the *13 Moons* journey for apprenticing musicians.

Upon reflection, I feel that the *student-focused* elements explored through *Sculpturesque, Earthshine, Lessons from Mother Earth, Catango 5* and *Letter from Sado* have all led to the formulation of the *13 Moons* resource. *13 Moons* enables apprenticing musicians to compose music through a creative process that engages the 'colour-first' approach. The pitch material was created after exploring various cultural aspects of native American and Canadian people. Notable influences include the strong association with gratitude, the spiritual aspects of the moon and the relationship between humans, animals and their natural surroundings. Each of these elements guided and influenced the melodic and harmonic material created for each movement.

Having learned that the number four is a significant number for Canadian First Nations people, largely influenced by the points of a compass, I devised four movements to *13 Moons* named North, South, East and West. A mind-map of each of these movements was conducted on a whiteboard to ascertain the correct placement of the many influences guiding this piece:

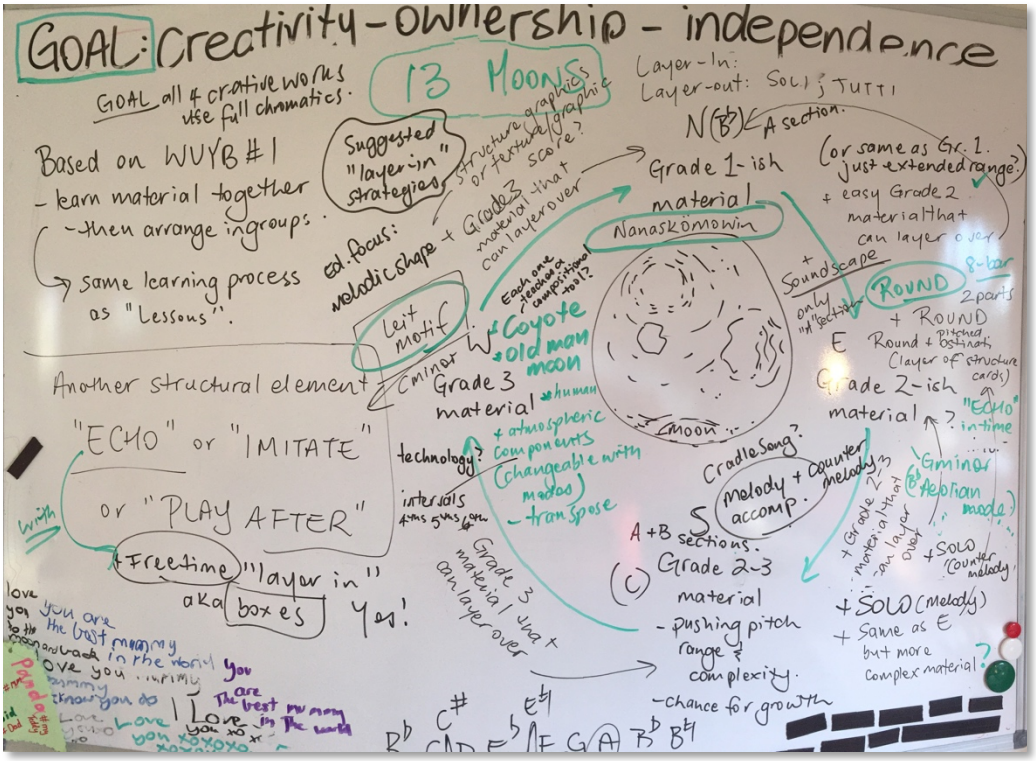


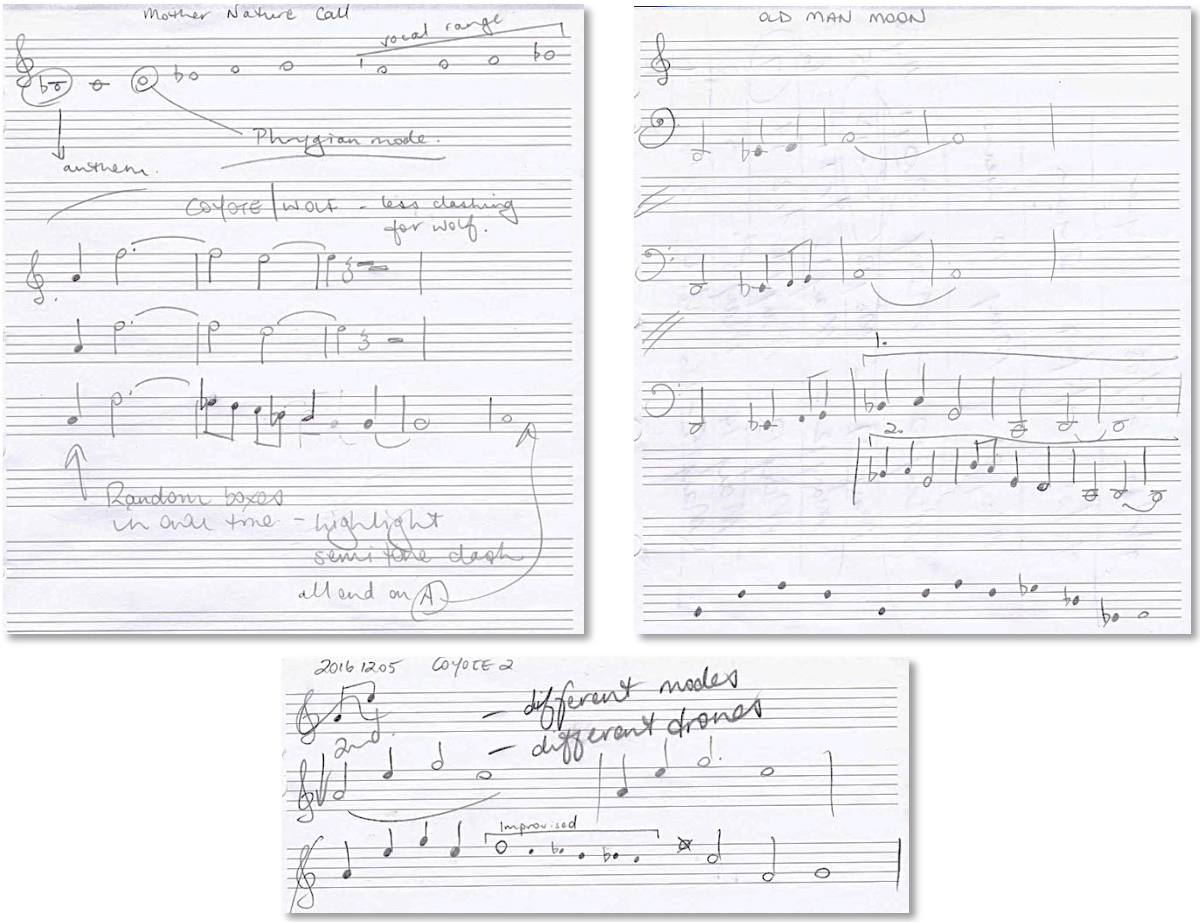
Figure 6-5 – *13 Moons* mind map

From an educational standpoint, a scope and sequence that detailed key, structural components and textural complexity was developed:

Concept	13 Moons: North	13 Moons: East	13 Moons: South	13 Moons: West
Pitch	Concert Bb Major 1. Harmonized Melody 2. Counter Melody (opt.)	Concert G Minor 1. Melody 2. "Creepy" Accomp. (harmonic clashing)	Concert C Major 1. Melody 2. Accompaniment 3. Ostinato	Concert Eb whole tone 1. Leit motifs (3) 2. Drone 3. Colour motif 4. Connecting material
Structural Components I (Standard)	A material only TUTTI SOLI LAYER-IN LAYER-OUT	A material only + SOUNDSCAPE + SOLO + 2-part ROUND + M/A (Melody/ Accomp.)	A+B material + M/A (Melody & Accomp.) + Multi-layered textural passages.	A+B+C material PLUS transition material (that may or may not be used)
Structural Components II (For more Advanced players)	SOUNDSCAPE SOLO M/C (Melody & Accomp.)	+ ECHO + 4-part ROUND	+S/A (Solo & Accomp.) (1/2 soloists, one playing melody, one playing counter melody plus accompaniment)	Introduce formal terminology: Binary, Ternary, Rondo, Sonata
Textural Complexity	1. Unison rhythm in main melody. 2. Two simultaneous lines (with opt. counter melody)	1. Alternate parts overlapping (round). 2. Clashing harmonic accompaniment.	1. Four independent pitched ostinatos (w/w, brass). 2. Three non-melodic ostinatos (perc).	1. Overlapping of three alternate melodic figures (leit motifs) one of which is in two parts. 2. Addition of transition material.

Table 6-4 – *13 Moons*: Scope and Sequence

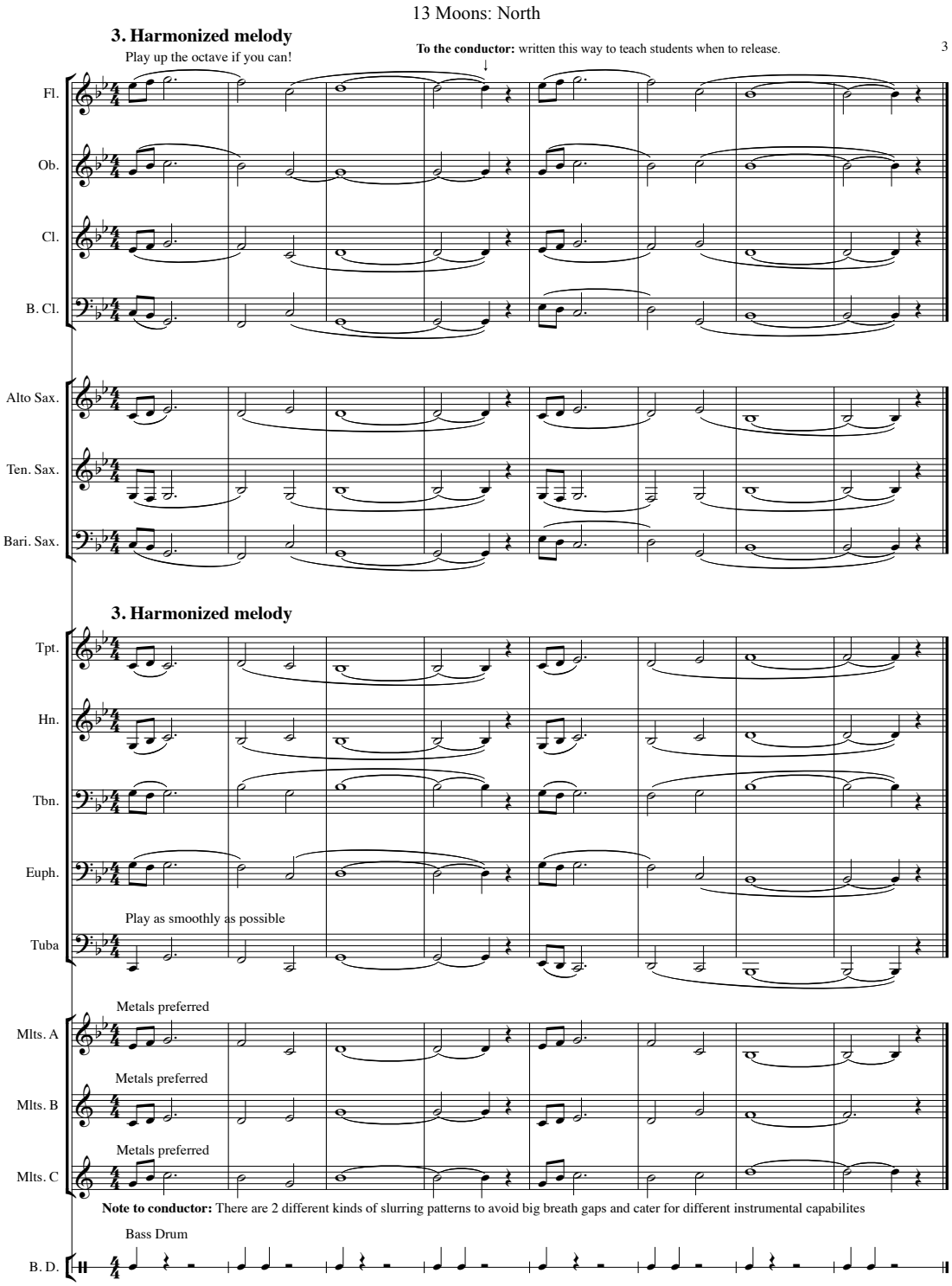
From an artistic standpoint, the melodic material was conceived using the improvisation/transcription method. Multiple different themes were created, inspired largely by imagery and stories in the Bruchac text. In each of these early sketches, we see the consideration given to character (score sample 6-7):



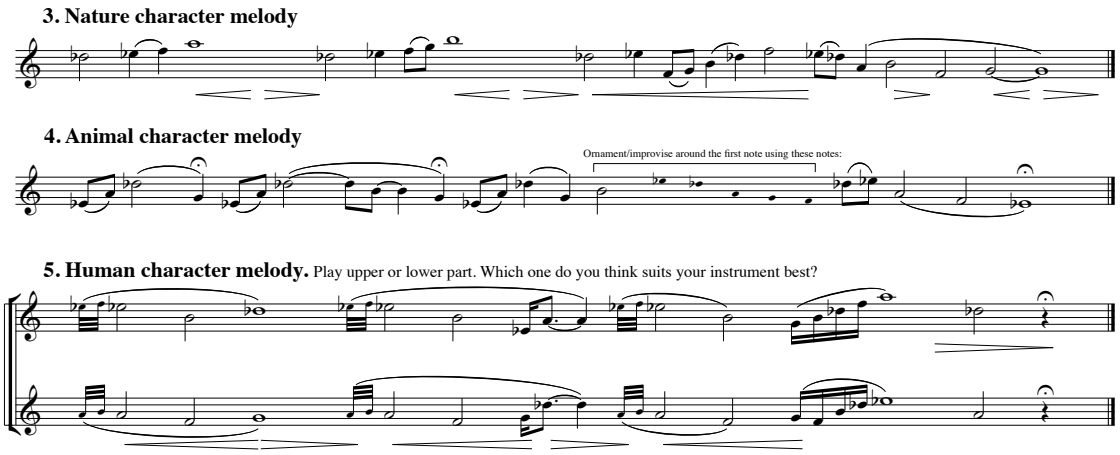
Score sample 6-7 – Early sketches of melodic material for *13 Moons*

The material represents four different moods, with each offering more elaborate pitch material. In *13 Moons: North*, the material stems from the first theme written for *Lessons from Mother Earth*, that was inspired by the concept of gratitude. The rhythm used here stems from the Cree word for grateful: nanâskomowin (see score sample 6-8). Cree is the most commonly spoken language by First Nations people in Canada and I explored the language to see if any vocabulary was able to be used. I found the gesture and colour of the word nanâskomowin appealing and created a melody, based on a B♭ major scale, around it. The limited pitch range used here allows more mature players to take their melodic parts up the octave and experiment with voicing (when appropriate). By contrast, *13 Moon: West* utilised three different sets of pitch material that represent humans, animals and nature (see score sample 6-9). Each theme is based on a whole tone scale and elements of the "nature" theme can be found in the "Old Man Moon" sketch in score sample 6-8, with the sketches for the

"coyote/wolf" influencing the animal theme. When sketching these melodies, I had images from the Bruchac text on the walls surround the Korg Wavestation. The colour used in these images as well as the narrative surrounding the season guided tempo, shape and modal considerations.



Score sample 6-8 – *13 Moons*: *North* pitch material



Score sample 6-9 – *13 Moons*: West pitch material

The emotional engagement fostered during the construction of the pitch material provides apprenticing musicians with melodic considerations that fuse narrative with tone colour. Students are then given materials to guide their compositional process through timbral and textural considerations that include voicing and instrumental balance. They then, collectively, devise a structure in which to place their decisions regarding timbre and texture (much like I do in my own process). The Orff-Schulwerk approach taught me how to teach students to compose with form through the use of simple "structure cards". The cards each represent simple actions that reflect textural applications of pitch material. For example:

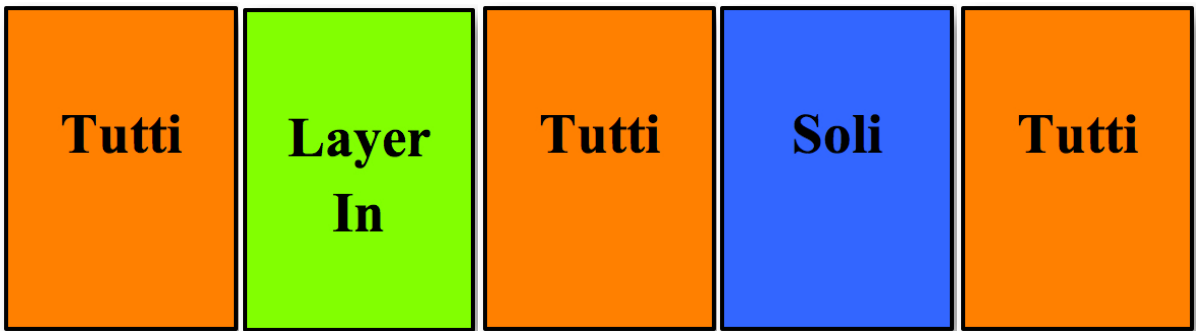


Figure 6-6 – Orff-Schulwerk inspired 'structure' cards

In the above example, students would all play the melodic material taught to them altogether *once* (Tutti), then different parts (usually playing a portion of their part as an ostinato) would *layer in* their parts on top of each other. There are many different ways to "layer-in", for example, one instrument family may start playing every one or two measures. Alternatively, the instrument families may enter every eight bars (or however many measures the melodic

material is), allowing each line to be clearly heard and then gradually harmonised. In the *Soli* section, one group (for example, Clarinets), would play their part *once*, then the performance would end with everyone playing together again (Tutti). Experience has taught me that students understood form easily and quickly using this method and for many years I have utilised it in both the classroom and band rehearsals. In *13 Moons*, the "structural components" section of the scope and sequence refers to elements introduced through "structure cards".

After a brain-storming session including trial and error, students devise their own compositions through the playing of the pitch material, applying that to some kind of narrative, and then devising their own structure. Here, they are spiralling through the 'Sketching' and 'Composing' stages of the creative process. Figures 6-7 and score sample 6-10 are an example of one of the early sketches of *13 Moons: North* put together by students at a music camp:

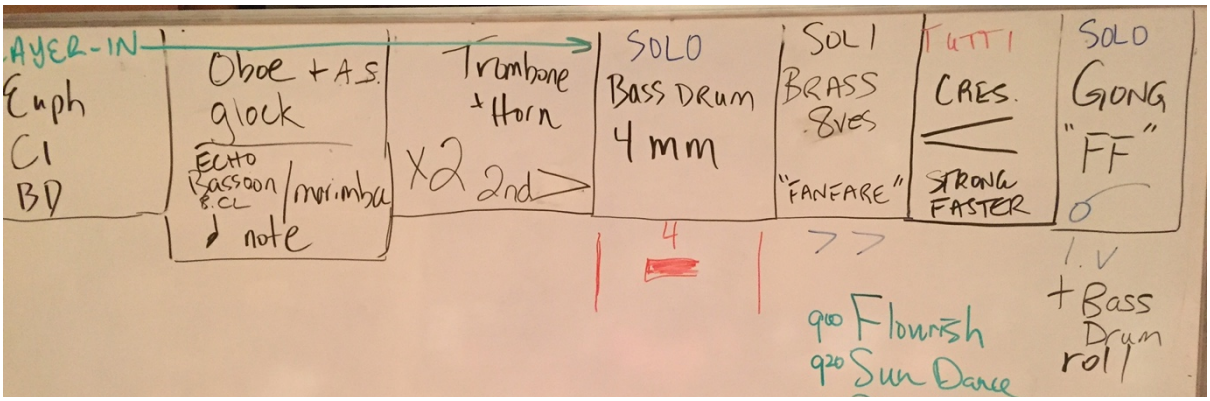


Figure 6-7 – *13 Moons*: *North* sketch

Score Sample 6-10 – *13 Moons*: *North* final structure (audio available)

In this example, students created their own narrative and used this as a springboard for the basic structure of the composition. Once the basic sketch had been created, the students entered the 'composing' process and brain-stormed expressive techniques, whilst also investigating each structural component with increased intricacy. More specific instrumentation, gained through a detailed exploration of tone colour blends in different ranges were confirmed and a clear format was created. Interestingly, once the final structure shown in score sample 6-10 had been confirmed, students realised the need for a conductor to guide them through the composition and unify the ensemble. This experience answered another conundrum I had been aiming to solve in my years as a composer-educator, that being, "when does the music educator cease teaching from the podium, and start conducting music?" The *13 Moons* creative experience demonstrated to students that their musical creation needed guidance by a singular figure to unify their compositional decisions and provide the best possible performance outcome. Here, the conductor was thus able to *conduct the music* as created by their students, rather than teach them a piece written by someone else.

Through *composing pieces*, *colour-wheel scores* and *collaborative pieces*, a wide range of compositional processes have been explored with alternate outcomes. Pieces written with an educational focus offer works in the *student-focused* genre of educational wind band music, and pieces written from an educational and emotional centre, offer *exploratory* and *concert-*

works to apprenticing musicians at various stages of their pedagogical journey. Each work serves a valuable purpose and provides students with the opportunity to consider music making through the eyes of a 'colour-first' composer.

Chapter 7
Utilising divergent compositional strategies to embellish the 'colour-first' vision: Symphony No. 1, Leunig's Prayer Book

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The influence of the 'colour-first' approach on works for apprenticing musicians clearly demonstrates a fusion of compositional ideology with life experience gained through a chosen career pathway in education. When composing music without the limitations imposed by apprenticing ensembles, a fusion of a different kind emerges. With limitations released, I feel more at liberty to merge together a wide range of compositional strategies to generate pitch material that best reflects the emotional intent of the germinal idea. Such compositional strategies include more expansive drawing and mind-mapping methodologies, mathematical concepts, and a more extensive exploration of the improvisation-transcription model. These, when merged with wind, brass and percussion timbral blends (either previously used or new-to-me), all contribute to the transformation of my 'colour-first' ideas into musical compositions for the modern wind band.

Formulating a symphony

The creation of Symphony No. 1 invited the opportunity to compose without limitation and explore alternate compositional strategies that would embellish my 'colour-first' approach. The four-movement Symphony was inspired by four prayers written by Australian cartoonist, author and cultural commentator Michael Leunig. In 2004, Leunig received a commission from a prominent Australian newspaper to contribute to their Sunday newspaper each week, for

one year. Leunig was first invited to contribute a weekly cartoon, but instead, decided to contribute something that resembled "some small spiritual message of consolation" (Leunig, 2006, p. i). Leunig calls his contributions "public prayers" and states that:

> Their creation has involved feelings of considerable vulnerability, because I understood that such things are readily and gladly misunderstood. They are my fumbling experiments and they mostly derive from a situation of deep personal struggle which was difficult, wonderful and radical.
> (Leunig, 2006, p. ii)

The prayers selected from Leunig's "fumbling experiments" were written to celebrate the commencement of each new season:

Summer	Autumn	Winter	Spring
We welcome Summer and the glorious blessing of light. *We are rich with light; we are loved by the sun.* *Let us empty our hearts into the brilliance. Let us pour darkness into the glorious, forgiving light.* *For this loving abundance let us give thanks and offer our joy.* *Amen.*	*Autumn.* *We give thanks for the harvest of the heart's work.* *Seeds of faith planted with faith;* *Love nurtured by love;* *Courage strengthened by courage.* *We give thanks for the fruits of the struggling soul,* *The bitter and the sweet;* *For that which has grown in adversity* *And for that which has flourished in warmth and grace;* *For the radiance of the spirit in autumn* *And for that which must now fade and die.* *We are blessed and give thanks.* *Amen.*	*Dear God,* *Let us prepare for winter.* *The sun has turned away from us and the nest of summer hangs broken in a tree.* *Life slips through our fingers and, as darkness gathers, our hands grow cold. It is time to go inside.* *It is time for reflection and resonance.* *It is time for contemplation.* *Let us go inside.* *Amen.*	*Dear God,* *We celebrate spring's returning and the rejuvenation of the natural world.* *Let us be moved by this vast and gentle insistence that goodness shall return, that warmth and life shall succeed, and help us to understand our place within this miracle.* *Let us see that as a bird builds its nest, bravely, with bits and pieces, so we must build human faith.* *It is our simple duty; it is the highest art; it is our natural and vital role within the miracle of spring: the creation of faith.* *Amen.*

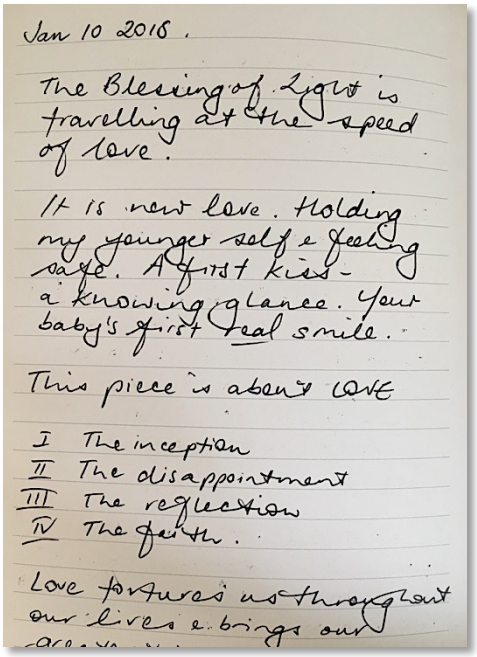
Table 7-1 – Leunig prayers used to inspire the Symphony

(Leunig, 2006 - Reproduced with permission of the publisher, Harper Collins (Australia and New Zealand)).

Fundamental themes, tone colours and compositional goals stemmed from each of these prayers, including the subtitles of each movement: *Movement 1 - The Blessing of Light, Movement II - Bitter and the Sweet, Movement III - Reflection and Resonance, Movement IV - The Creation of Faith*. A life cycle governing the four seasons seemed evident, and my own personal interpretation led me to believe that the *Blessing of Light* represented new life, *Bitter and the Sweet* delineated mortality, *Reflection and Resonance* signified a spiritual afterlife and *The Creation of Faith* implied the honour and duty in once again, breathing new life through the eyes of hope. The life cycle inferred here is not necessarily a literal one, and may represent an idea, a life goal, an occupational dream or even the cycle of seeking an intimate, loving connection.

In addition to this cycle, late in the compositional process I contemplated the underlying theme that exists in all of the Leunig prayers: love. In a diary entry dated January 10, 2018, I wrote the following:

> *The Blessing of Light is travelling at the speed of love. It is new love. Holding my younger self and feeling safe. A first kiss – a knowing glance. Your baby's first <u>real</u> smile.*
>
> *This piece is about LOVE.*
>
> *I – The inception*
> *II – The disappointment*
> *III – The reflection*
> *IV – The faith*
>
> *Love tortures us throughout our lives and brings our greatest joys and most heart wrenching sorrows.*


Jan 10 2018.

The Blessing of Light is travelling at the speed of love.

It is new love. Holding my younger self & feeling safe. A first kiss - a knowing glance. Your baby's first real smile.

This piece is about LOVE

I The inception
II The disappointment
III The reflection
IV The faith.

Love tortures us throughout our lives & brings our

Figure 7-1 – Diary entry concerning the prayer for Summer, January 10, 2018

The journal entries continued throughout the January of 2018, discussing the relationship between Summer and Winter, Autumn and Spring. On January 31st, my diary entry explored the concept of light as a life force, sailing through each prayer. In Summer, I wrote that light

was “on the outside, enlightening, all-glittering, sparkling. It brings life, happiness… we are a child”. In the prayer for Autumn, I contemplated that “whilst we must be grateful for the sparkles and gleam”, the light within us can be extinguished. In the prayer for Winter, I considered that light “shatters apart… [it] seems to have vanished completely and we must go inside to seek refuge from the pain”. Once inside, we “realise that the light still exists; it is simply more intense, and more beautiful than ever before”. My interpretation of the prayer for Spring (in this context) allowed us the good fortune of life experience, restoring “our ability to seek beauty in all things”. I feel that Leunig’s journey of life through light, found on the inside, may now shine brightly in the Spring and restore faith in ourselves and all humanity. In response to this emotional connection to the Leunig prayers and their connection to the “cycle of life – not only a WHOLE life, but [the] micro-units within ... one life” (quoted from my journal), I drew a small simple sketch to reflect the form of the whole symphony based on the journey of light and love through the prayers:

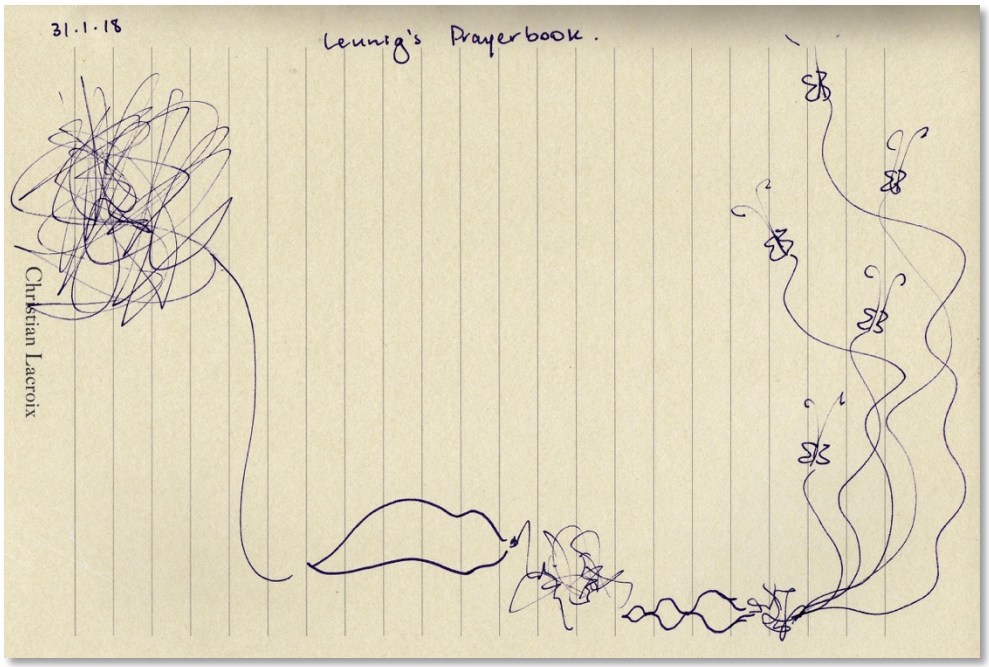


Figure 7-2 – Symphony No. 1: sketch of structure, January 31, 2018

The sketch was copied and posted on my mind mapping whiteboard. I remained faithful to the structure sketched here and two main concepts of love and light throughout the writing of the remaining three movements (the second movement had already been constructed).

In writing the symphony, I believe I endured my very own “deep personal struggle which was difficult, wonderful and radical” (Leunig, 2006, p. ii), just as Leunig had done before me. I followed my own heart and my own spiritual light in an earnest wish to not only bring due justice to the brilliance of the Leunig prayers, but to also push my compositional craft beyond anything I had previously attempted. The impact on compositional approach and musical outcomes is evident, and the use of known and new strategies, discussed here in Chapter 7, reveal my innermost compositional thoughts.

Practical considerations

In my many years of associating with the wind band, I have attended a number of live performances. In recent times, I became increasingly aware of my inability to tolerate an entire concert by the ensemble. The harshness of the orchestration, stemming from a compositional style that focused on strong unison lines, provoking overwhelmingly loud and pointed timbres and hollow textures, made some concerts personally excruciating. Hence, in writing a 25-minute symphony, I wished to ensure that the audience did not feel overwhelmed by the experience, and that dense moments were relieved throughout the performance by significant changes in tone colour and texture. This idea was inspired by British composer Philip Sparke’s 20 minute work *Dance Movements*, (Sparke, 1996). Sparke utilised the inner movements to create timbral change. The second movement used only instruments from the woodwind section, and the third, brass. A percussion break is used to open the fourth movement.

In alignment with the life cycle suggested by Leunig’s prayers, and the clear message given in the prayer for Winter to “go inside”, I felt that the instrumentation needed to diminish, gradually, until the intimate moment of personal reflection in the third ‘Winter’ movement arrived. Hence the instrumentation was structured as follows:

Movement I	Movement II	Movement III	Interlude	Movement IV
Wind Symphony	Symphonic Winds	Saxophone Quartet	Baritone voice	Wind Symphony
	+ Euphonium + String Bass	Flugel Horn Trio	Acoustic guitar	
	+ Percussion	Percussion		

Table 7-2 – Instrumentation of the Symphony

The "symphonic winds" specified in Movement II were inspired by the instrumentation used by Stravinsky in his *Symphonies for Wind Instruments* (Stravinsky, 1952). Whilst Stravinsky's instrumentation varied between the 1920 and 1947 editions (Ochoa, 1995), I chose to utilise elements of both, including two Flute parts plus Alto Flute (as used in the 1920 version), two Bassoon parts plus Contrabassoon (as used in the 1947 version) and two Trombone parts plus a Euphonium (in place of three Trombones). I also used two B♭ Clarinet parts plus a B♭ Bass Clarinet (instead of three Clarinet parts), and only one B♭ Trumpet (used sparingly at the very end of the movement). The addition of String Bass and intermittent percussion were used to provide and effect additional resonance as required.

Instrumentation alteration was used to reflect change in the emotional content of the prayers themselves. The *Blessing of Light (Summer)* utilised vocabulary, such as "glorious", "brilliance" "rich with light" and "loving abundance". To match the vigour and passion of such vocabulary, the full wind symphony was required. The *Bitter and the Sweet (Autumn)*, contained plausible overtones of lives lost in the efforts of a greater good[6]. Hence, a more fragile timbral blend was adopted, including the addition of cor anglais, haunting aeolian sounds and the inference to the opening of the infamous military bugle call, the Last Post (https://www.army.gov.au/our-history/traditions/the-last-post accessed October 2, 2019).

Reflection and Resonance (Winter) engaged almost every instrument not utilised in the second movement, with the Trumpet section exchanging their instruments for Flugel horns. This combination of instruments from the sax-horn family provided a blurring uniformity of timbral

[6] I have an additional interest in the Australian contribution to World War I fostered through many years of marching in ANZAC Day services with school bands. Leunig's prayer for Autumn reminded me of the courageous sacrifice many men and women made during that rapacious encounter.

colours, punctuated by both melodic and spoken voices from ensemble players who are not required to play, and percussion. The Winter also encompassed some theatrical characteristics and ends with an interlude performed by voice and guitar. These two instruments do not exist within the traditional wind band instrumentation and thus provide a completely new colour. At this moment in the symphony, the spirit is completely alone, lost in contemplation, dwelling on innermost thoughts and realities. I spent a great deal of time wondering what the tone colour would be on the inside of my own heart, and this deeply spiritual and personal journey arrived at the fragile timbres of Acoustic Guitar and a Tenor/high-Baritone voice. I believe this to reflect my love of folk music that perhaps dates back to music listened to in my childhood, as discussed in connection with melodic influences in Chapter Four. The final movement, *The Creation of Faith (Spring)* reinstates the celebrated full wind symphony, just as the prayer celebrated the "rejuvenation of the natural world".

Exploring drawing as a pathway to musical conception

In Chapter Four I revealed the use of drawing during the *Productive Mood* stage of my compositional process. Drawing enabled me to be free of *actual* musical thoughts and connect colour ideas with emotional sensibilities. At this point in the compositional process, visual colours seemed to reflect my emotional response to the 'germinal idea'. In the creation of the symphony, I utilised drawing in different ways in order to explore the alternating emotional and timbral goals that stemmed from each of Leunig's prayers. Sometimes, the drawings represented form, at other times, they were drawn whilst listening to other music with the same emotional intent that I was striving to achieve. Other imagery, including photographs and the drawings of others are also utilised. In a different approach, I created manuscript paper to draw imagery upon that listed instruments in order of pitch, thus merging visual colours and shapes with wind band instrumentation.

The first set of drawings created for the symphony stemmed around the *Blessing of Light*. Whilst this movement was the third movement to reach the *Composing* stage, the *Productive Mood* stage was elongated over several years. The first sketches were in direct relationship to the prayer itself, using Leunig's words to inspire first thoughts:

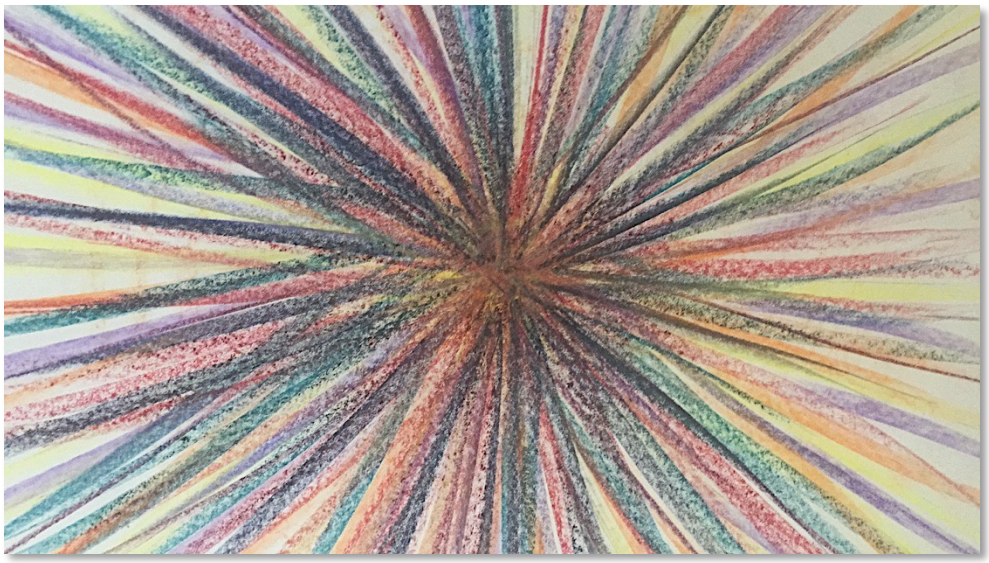


Figure 7-3 – Early drawing for the *Blessing of Light* (Movement I)

The drawing above is in response to the words “we are rich with light, we are loved by the sun”. A second drawing took a different emotional viewpoint, focusing more on the message of “pouring darkness” into the “forgiving light” and the gratitude we feel in such a moment for this “loving abundance”.

Figure 7-4 – Taking an alternative viewpoint to the *Blessing of Light* (Movement I)

Whilst these drawings helped to explore the prayer and my initial thoughts surrounding the symphony, I was perplexed by the meaning behind the prayer and spent a great deal of time pondering Leunig's use of the word "light". Was it a spiritual light, the life-giving light of the Sun, or was Leunig speaking of enlightenment? As discussed earlier in the chapter, the concept of light and love kept reappearing and these influenced the colours and mediums used in each drawing, particularly for the first movement.

An alternate use of drawing was to listen to music composed by others that portrayed the emotional energy I was hoping to achieve. With regard to the *Blessing of Light*, I listened to Rimsky Korsakov's *Capriccio Espagnol* (Rimsky-Korsakov, 1888). I had thought that I had selected this work as it captured the vitality I was hoping to achieve in the first movement. However, maybe something else was happening at a subconscious level. My earlier diary entry reveals a link between Leunig's prayer for Summer and a person in a child-like state, full of vigour and wonder. At the age of 16, I played Clarinet in a youth orchestra and we performed *Capriccio Espagnol*. I have loved the work ever since. The link between a joyful memory of my youthful self, playing the work, and then selecting it as a piece in which to draw imagery in the hope of capturing the same youthful, vitality for inspiration seems uncanny. The resultant drawing shows all the vivacity and colour pronounced in Rimsky Korsakov's work as well as the Leunig prayer:

Figure 7-5 – Image drawn in reaction to Rimsky Korsakov's *Capriccio Espagnol*

Each of these images helped to conceptualise not only what I was hoping to achieve musically, it also helped me to realise my emotional response to the prayer.

Once I had established the motifs of light and love, I moved my drawing from sketch books and journals to specifically created manuscript paper. The paper, reflecting a full wind symphony, was re-ordered to represent descendance in pitch from the top of the page (see figure 7-6).

From here, ideas stemming from the structure sketch of January 31, 2018 (figure 7-2), the exploration of light, and drawings conducted in response to the prayer and other music that I believed to possess a corresponding emotional intent, led to the creation of a drawing that guided the opening of the symphony (see figure 7-7 and score sample 7-1). The flourishing winds reflect the upper most amber-coloured wavy lines, and the overlapping of many colours to produce a dark explosion of colour from the centre of the page is represented by the introduction of the first melodic motif: one that I simply call, love.

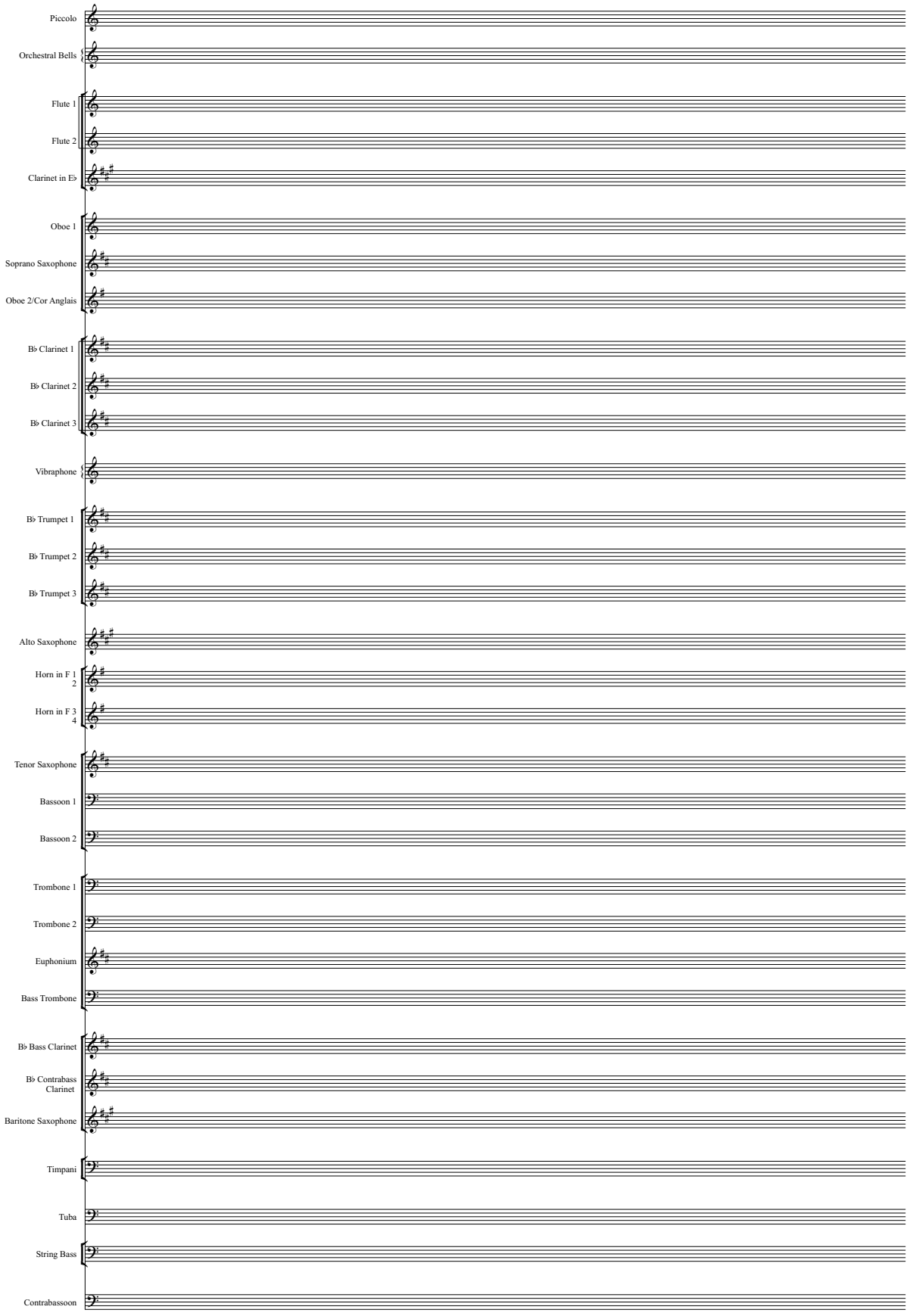
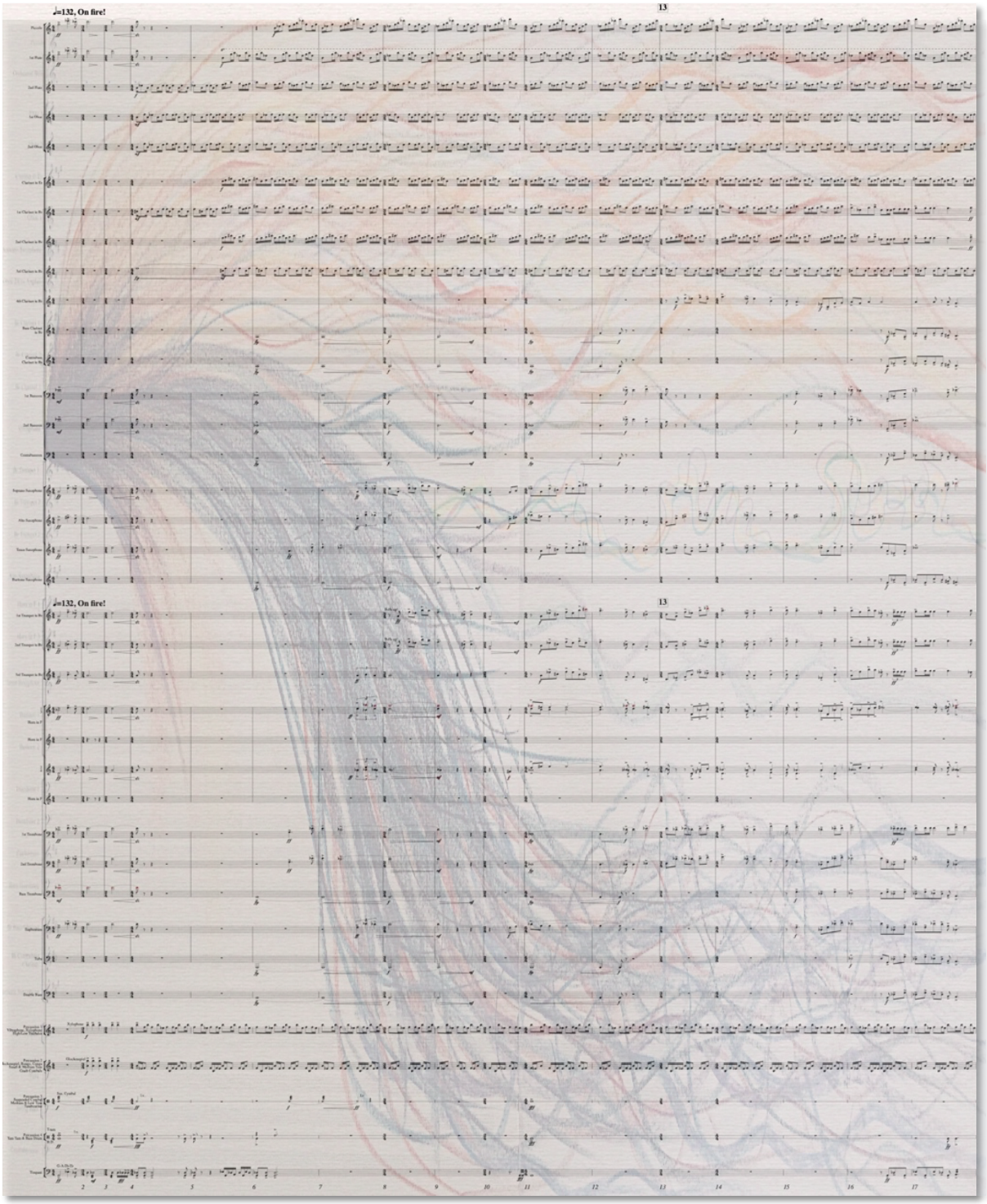


Figure 7-6 – Manuscript in descending pitch order for drawing

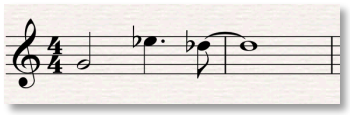
Figure 7-7 – Drawing on manuscript



Score sample 7-1 – The manuscript drawing juxtaposed onto the opening 17 measures of *The Blessing of Light* (audio available)

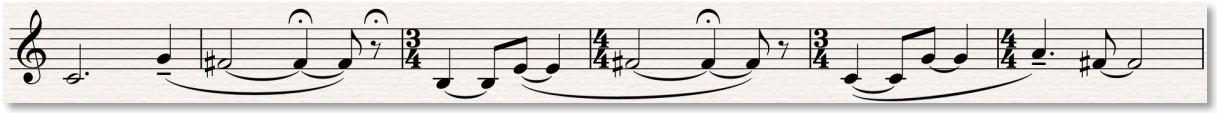
(score sample provided here in score order)

In score sample 7-1, the opening figure is marked by three notes (see score sample 7-2). These three notes appear in multiple forms throughout the work and are a motif representative of the underlying theme of love in each of Leunig's prayers:



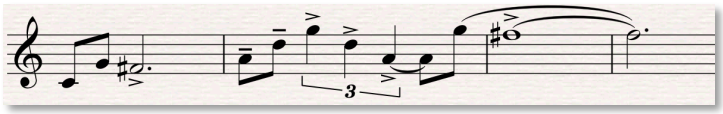
Score sample 7-2 – Love motif, Trumpet 1, measure 1, Movement I

The opening interval of the motif moves between a fifth, a minor sixth and a major sixth, representing the differing façades of love itself. It was first used in the opening measures of the second movement (the first composed movement), guided by the Cor Anglais:



Score sample 7-3 – Love motif, Cor Anglais, measures 1-6, Movement II

In the first movement, the same pitches used by the Cor Anglais are taken by 1st Trombone; however, the motif is used as a springboard and takes an alternative melodic direction:



Score sample 7-4 – Love motif, Trombone 1, measures 136-139

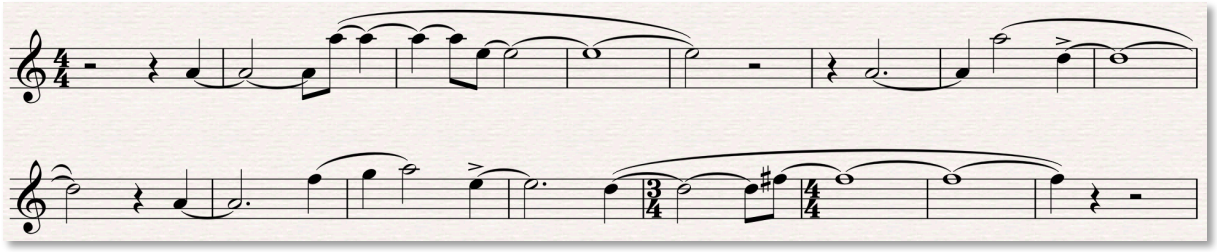
This fragment of the 1st Trombone line, appearing toward the end of a solo that commences at measure 118, further explores the melodic phrase by modulating to the key of D major. This modulation to D major, long regarded by myself as the key of joy (first inspired by the triumphant D major opening of the 1610 *Vespers for the Blessed Virgin* by Claudio Monteverdi

(Kurtzman, 2000)), correlates with Leunig's words, "for this loving abundance, let us give thanks and offer our joy" (Leunig, 2006)[7].

The opening interval of the fifth is inverted by the Soprano Saxophone at measure 104 of the first movement, and this transitional phase in the movement (measures 104-117) overlays the same harmonic progression utilised in the verse of the song, sung at the end of the third movement:

Score sample 7-5 – Love motif, Soprano Saxophone, measure 104

The love motif is extended into a full melody in the fourth movement, as presented by the Flutes:

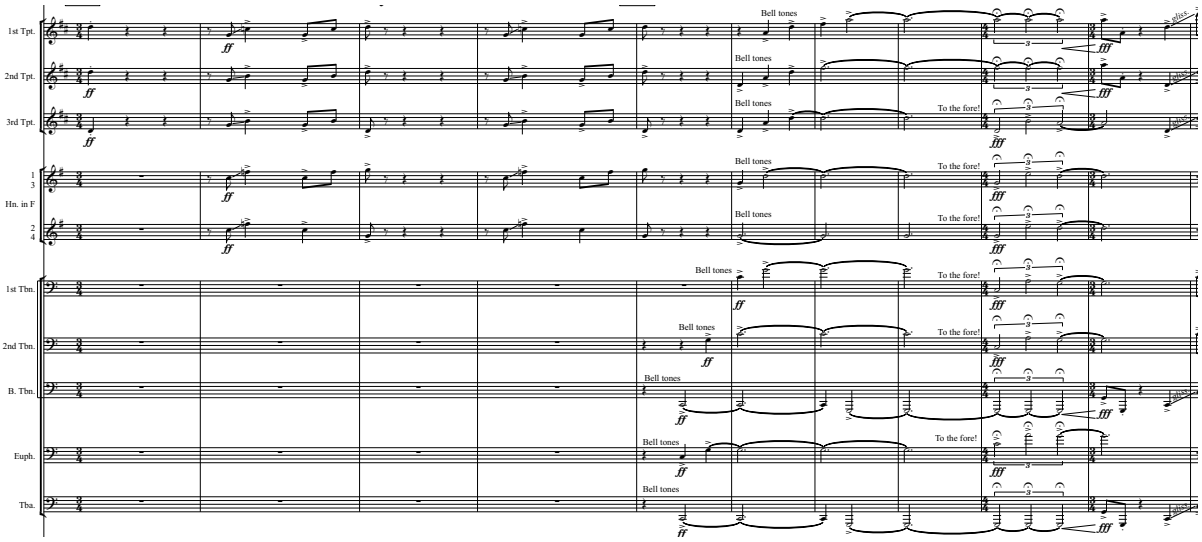


Score sample 7-6 – Love motif, Flute 1, measure 40-55

In this instance, variation is provided by an octave jump, with a proceeding descending step of a fourth, followed by another octave leap and the descent of a fifth. The rising leap of a major sixth is then complemented by the smaller step of a major third to complete the phrase. The embrace of D major reflects Leunig's inference to self-love in the prayer for Spring, "Let us be moved by this vast and gentle insistence that goodness shall return, that warmth and life shall succeed, and help us to understand our place within this miracle" (Leunig, 2006), whilst also linking to the end of the first movement.

[7] Whilst some may see potential here to identify particular emotions with tonal centres and timbral combinations, I feel that this is a particularly personal relationship. Additionally, I feel that any effort to formulate such a relationship may change the focus of the intimate selections made by composers during their creative process with regard to timbre and harmonic language.

In the third last measure of the Symphony, the motif is stated one final time by Trumpet 3, Horns, Trombones and Euphonium; however, this time the opening interval features the rise of a major sixth, triumphantly completing the cycle:



Score sample 7-7 – Love motif, punctuating the end of the Symphony (using three fermatas)

One other approach to drawing that influenced the generation of pitch material during the Sketching and Composing stages of composition, was not to respond to music or art or a written prayer or poem, but to nature. For the opening of the final movement (the Spring), I was taken outside. The shadow of a tree branch in my backyard, bathed in Spring blossoms, fell onto my sketch book. I roughly traced the shape of the flowing branch and transformed it into the following drawing:

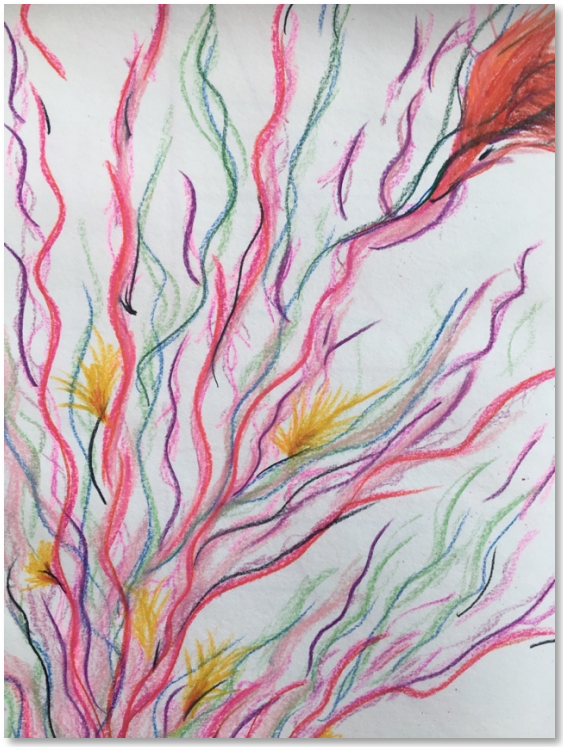
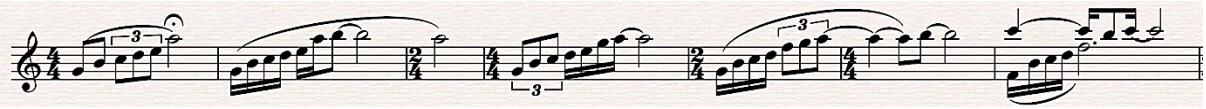


Figure 7-8 – Tracing the shapes of nature for Movement IV, *The Creation of Faith*

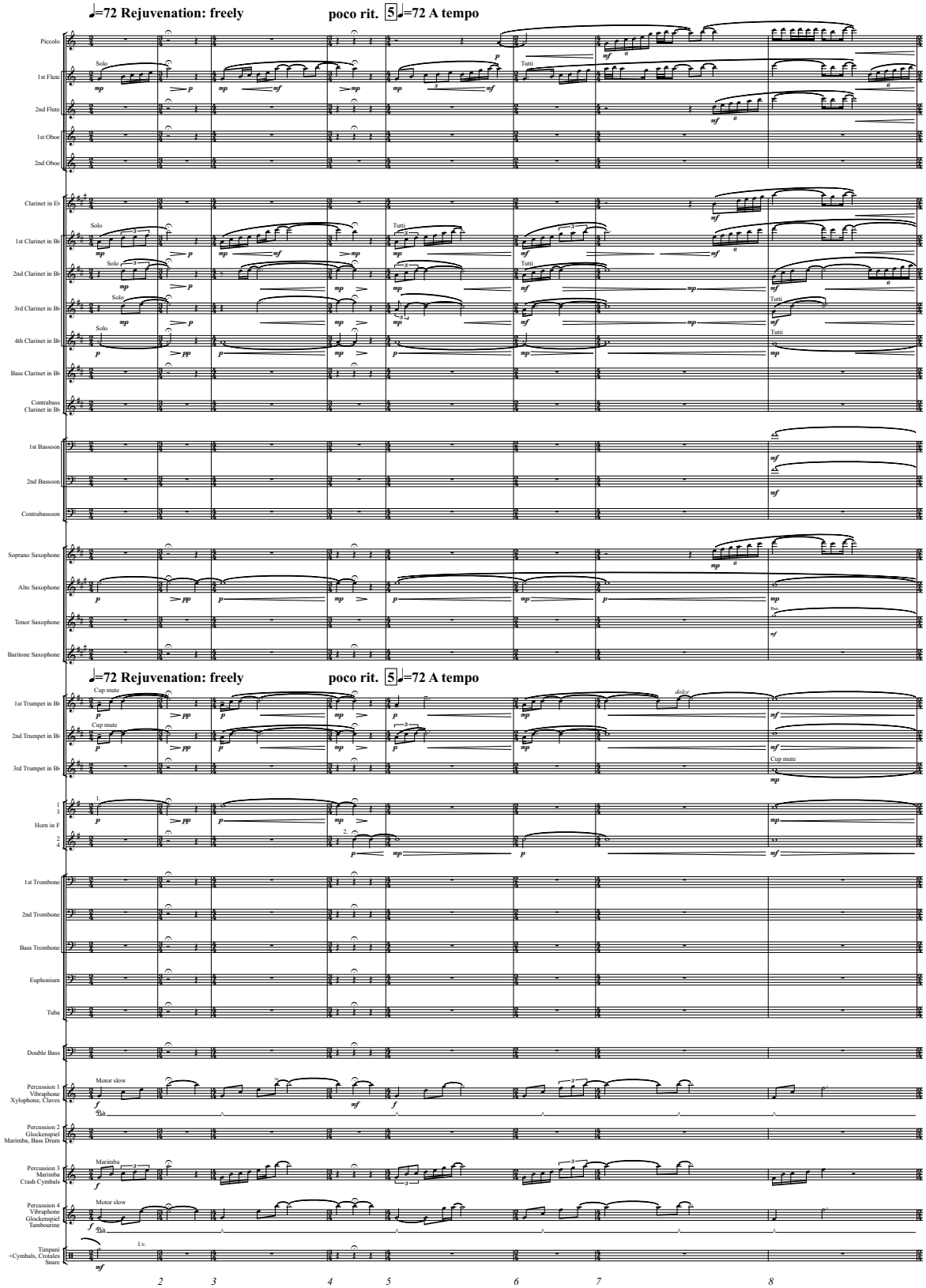
I placed this drawing on the stand in front of my keyboard and improvised. From here, I used the improvisation/transcription looping model to generate the appropriate pitch material. The ascending lines and vibrant colours that the drawing inspired, produced ascending pedalled chords and timbres, ultimately scored for upper winds. When applied to the symphony, I commenced this moment by centring on the dominant chord of the new key (C major) and celebrated the change in timbre for the opening of the final movement that signified Leunig's joy in rejuvenation: the arrival of Spring (see score sample 7-9 over the page).

In this score sample you will notice that each note is pedalled by Vibraphone; then alto voicings in Trumpets, Horns and Saxophones utilises what I have come to call my "smudging" approach. "Smudging" is the orchestration of pedalled notes that also creates a blurred, swirling line. Rather than have all instruments play together in running lines (a common wind band orchestration technique), I prefer to blend and interweave lines using alternate rhythmic patterns, to provide an overall flourish of sound. For the score sample 7-9, the original pitch material was:



Score sample 7-8 – Original opening pitch material of *The Creation of Faith*, measures 1-8

In this example we see a predominance in the use of ascending major chords with major 6th, 7th, 9th and 11th extensions. In the scored example from the symphony (score sample 7-9), these notes are layered in a series of multiple pedalled notes, "smudged" by the application of overlapping rhythmic figures. For example, in the opening two measures, the G is held in both Clarinet 4 and Horn 1. The next pitch, B, is held in Trumpet 2. Trumpet 1 holds the dominant of the chord (D) and on the second beat of measure 1, a small flourish towards to the highest notes A is "smudged" with the Flute 1 utilising a line of semiquavers, Clarinet 1 and 2 employing the original triplet figure and the Vibraphone playing quavers. The link between the imagery and the orchestration is quite transparent. The sparse instrumentation and the dominance of upper winds provide a bright timbral opening to the movement. This is inspired by the aforementioned adapted drawing of nature itself (figure 7-8) and offers a welcome change in mood and tone colour to the darkness explored during the third movement.



Score sample 7-9 – Measure 1-8 of The Creation of Faith (Movement IV) (audio available)

Mind-mapping for multiple purposes

Another tool utilised extensively during the Productive Mood of creating the symphony was mind mapping. For each movement, mind mapping was utilised disparately to process and generate appropriate pitch material in response to each of Leunig's prayers. At times, mind mapping was used as an analysis tool, and at others, as a methodology for processing deeply emotional and personal reactions to the journey inspired by a particular Leunig prayer.

When composing the Winter (Movement III), I also utilised the *drawing-on-manuscript* concept; however, during the fusion of musical and emotional ideas, I also created a collage of photographic memorabilia:

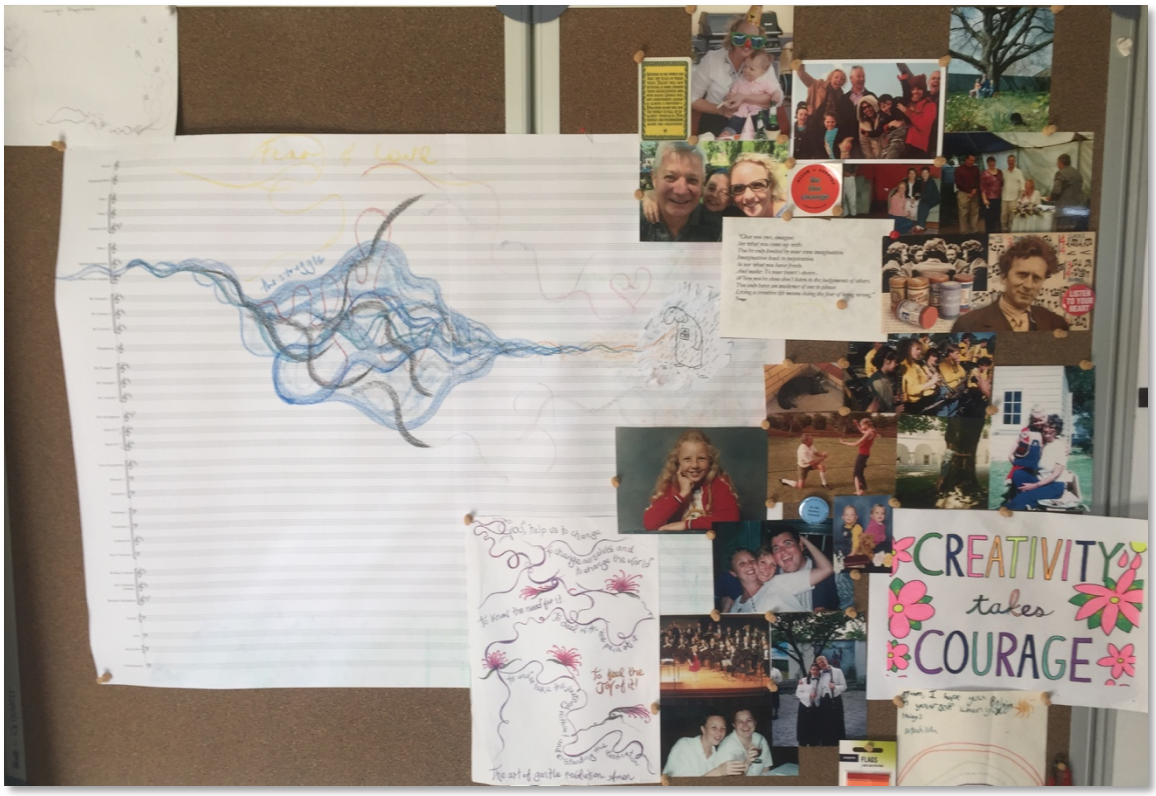
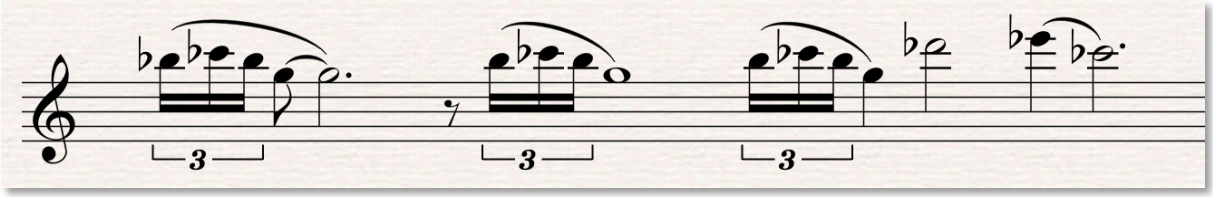


Figure 7-9 – Collage created for Movement III, *Reflection and Resonance*

The prayer for Winter invited the reader to 'go inside', and it is a good example of a composing process that is virtually directly opposite to that taken when considering apprenticing musicians. When writing for apprenticing musicians, it was revealed that shifting the weight from emotional to practical consideration altered the timbral and musical outcomes. In

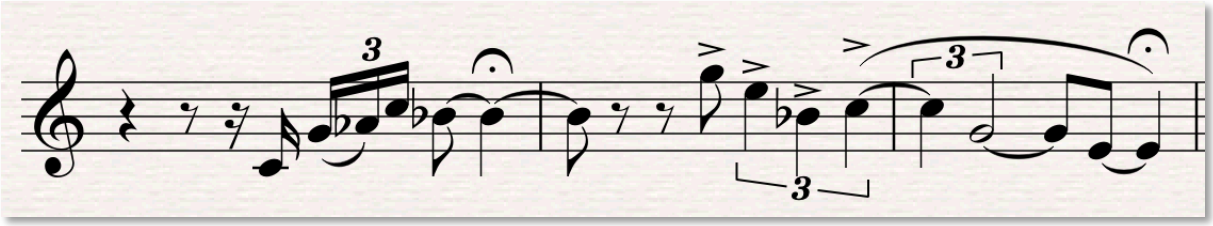
writing the Winter, the weight shifted from all practical consideration to a state of near psychological desolation, generated by a saturation of emotional exploration of the Leunig prayer. It was a psychological struggle to confront the demons that lie in my inner-most private thoughts and the photographs selected for the collage above represent people, events and aspects of my life that have had the most profound influence on creating who I am today.

Written in a faint yellow crayon on the manuscript are the words “Fear & Love”. In the prayer for Winter, Leunig states that the Sun has “turned away from us”. I began to see darkness and light as an allegory for fear and love, and the pitch material for the third movement, driven by the Soprano Saxophone, created a deviation from the Light theme presented by Clarinet 1 at measure 21, Movement 1:



Score sample 7-10 – Light motif, measure 21, Clarinet 1

The Soprano Saxophone inverts and twists this theme, utilising the intervals of major and minor second, tritone and major and minor third:



Score sample 7-11 – Variation on Light motif, Soprano Saxophone, measure 13, Movement III

The sketch on the manuscript (shown as part of the collage in figure 7-9), demonstrates the shape and change in textural complexity of both the prayer and resultant movement of music. The subconscious placement of the photographs to the right of this sketch represent what lies on the “inside” of my heart. It was not pain, nor fear; it was love. Love formulated by friends, family and my beloved husband, daughter and cats.

The emotional journey, that is inherent in the poem, governs the structure of the third movement:

Measures 1-12	Measures 13-26	Measures 27-40	Measures 41-90	Measure 91-95
Introduction "Let us prepare for winter."	Statement and development "The sun has turned away from us.."	Reprise "..as darkness gathers, our hands grow cold."	Song "It is time to go inside."	Transition Preparing for Spring

Table 7-3 – Form of Movement III, *Reflection and Resonance*

It begins with a single line (as the sketch on the manuscript does), a unison 'F' in voices, fortified by Flugel Horns and melodic percussion. The texture, harmonies and timbral colours then quickly change, leading to the Soprano Saxophone statement in measure 13 that inverts and distorts the theme of Light. As previously discussed, some ensemble members are engaged with vocal roles in this movement and from measure 13-21, these members are invited to vocalise text with "abandonment, despair" (rehearsal marking in score at measure 13). The text spoken here stems from a letter I wrote to myself during the depths of my emotional journey "inside". For the musical expression to appear truly vulnerable and authentic, I believed I needed to be vulnerable and utilise authentic, innermost thoughts experienced during an emotional crisis.

From measures 27-40, the harmonic language gradually becomes less dissonant, representing resolution from conflict. Textures dissipate, and timbral blends become more harmonious, the range of the pitch material also reduces. This reduction in musical elements represents the journey from despair to inner peace, and resembles the opening stillness used in the work *Peace Dancer*. At measure 40 the work is reduced to a solo pitch G, sung by the solo voice. This thin texture, with a new, warm and lucid timbre, evokes a shift in mood, and the song begins. Lyrics for the song stem from Leunig's prayer for winter and conclude with a metallic, ringing tone colour in melodic percussion. Once again, the concept of love and safety is (for me) represented by a childhood memory; this time, by the tone colour of a music box.

More traditional mind mapping skills were employed to create the form of the other movements. In the first movement, the form of the prayer itself was aligned with the scientific explanation of the birth of a sun. To gain a simple understanding about the birth of new sun, I read several different online articles including: https://www.space.com/19321-sun-formation.html (accessed October 1, 2019), https://solarsystem.nasa.gov/solar-system/sun/in-depth/, (accessed October 1, 2019).

From this simple research, I created a mind map to explore correlations between the Leunig prayer for Summer and the birth of a Sun.

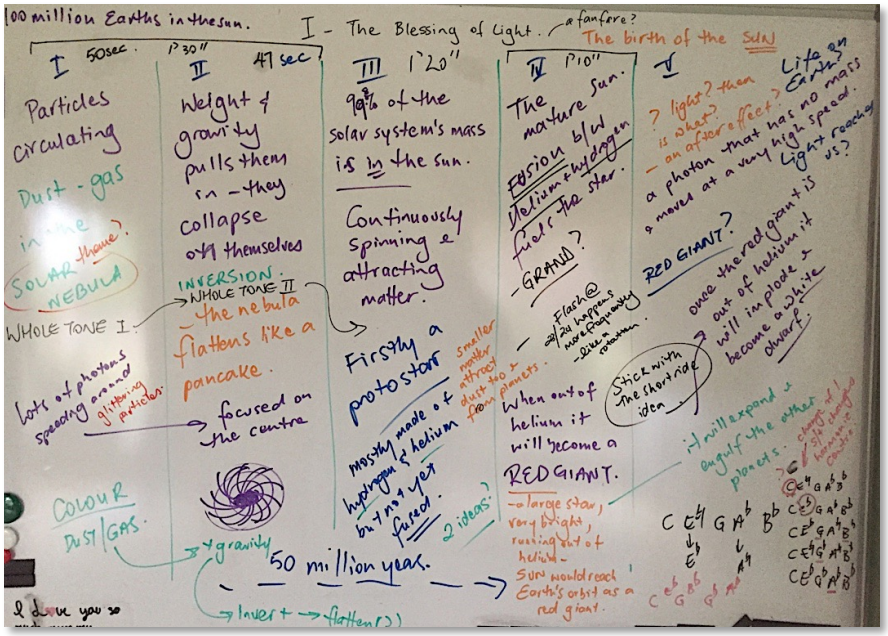


Figure 7-10 – Mind map of the birth of a Sun

Concurrent to this research, I also conducted a basic analysis of two compositions that I believed matched the vivacity I was seeking for the first half of the opening movement. These works were John Adams's piece *Short Ride in a Fast Machine* (Adams, 1992) and the *Mambo* from the *Symphonic Dances from West Side Story* by Leonard Bernstein (Bernstein, 1961). I wanted to match the energy and drive created by each of these pieces of music and believed the secrets may lie in their structure:

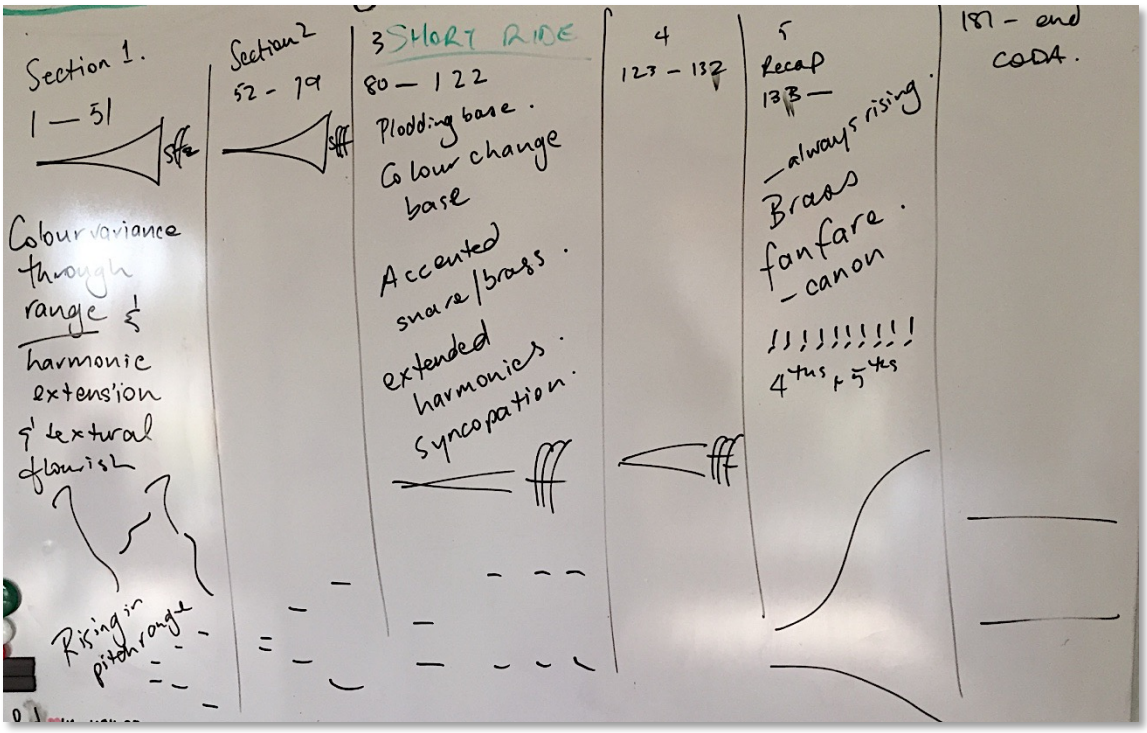


Figure 7-11 – Analysis mind map of *Short Ride in a Fast Machine*, by John Adams

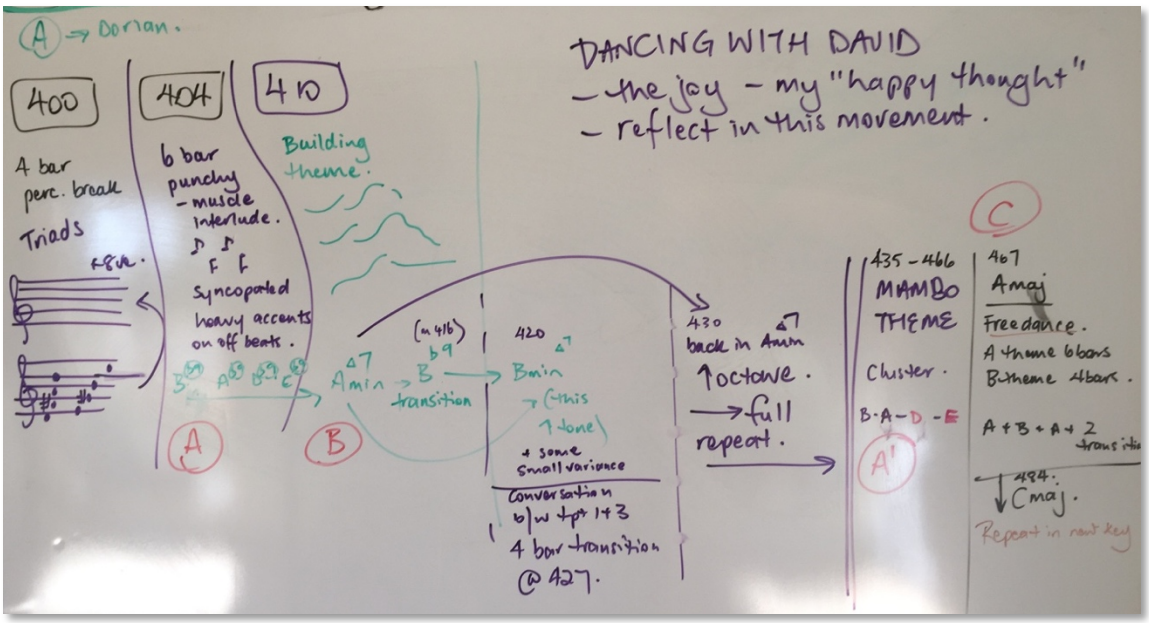


Figure 7-12 – Analysis mind map of *Mambo* from *Symphonic Dances, West Side Story*, by Leonard Bernstein

The analysis of the Adams revealed that the composer gradually increased textural complexity and pitch range in each section of the fanfare, often employing sharp and sudden textural and timbral changes to punctuate the commencement of a new musical moment. In comparison,

Bernstein cleverly developed melodic motifs with each repetition of the material, adding to the timbral and harmonic complexity each time. A more detailed analysis of the Bernstein also revealed an interesting orchestration of harmonic clusters, whereby the majority of the orchestra carried the melodic line in octaves, and clusters were played in second and third Trumpets, Clarinets and at times, Horns and Bassoons. In this case, I interpreted the clusters as a colour and the orchestration, as a means to thicken the strong unison/octave melodies without detracting from them.

In addition to these mind maps, I also explored the text within the prayer for Summer and began to draw correlations between lines in the prayer, light, mood and tonality. It was here that I first considered the speed of light (186 282 miles/second) and the development of the motif that I now simply call 'light':

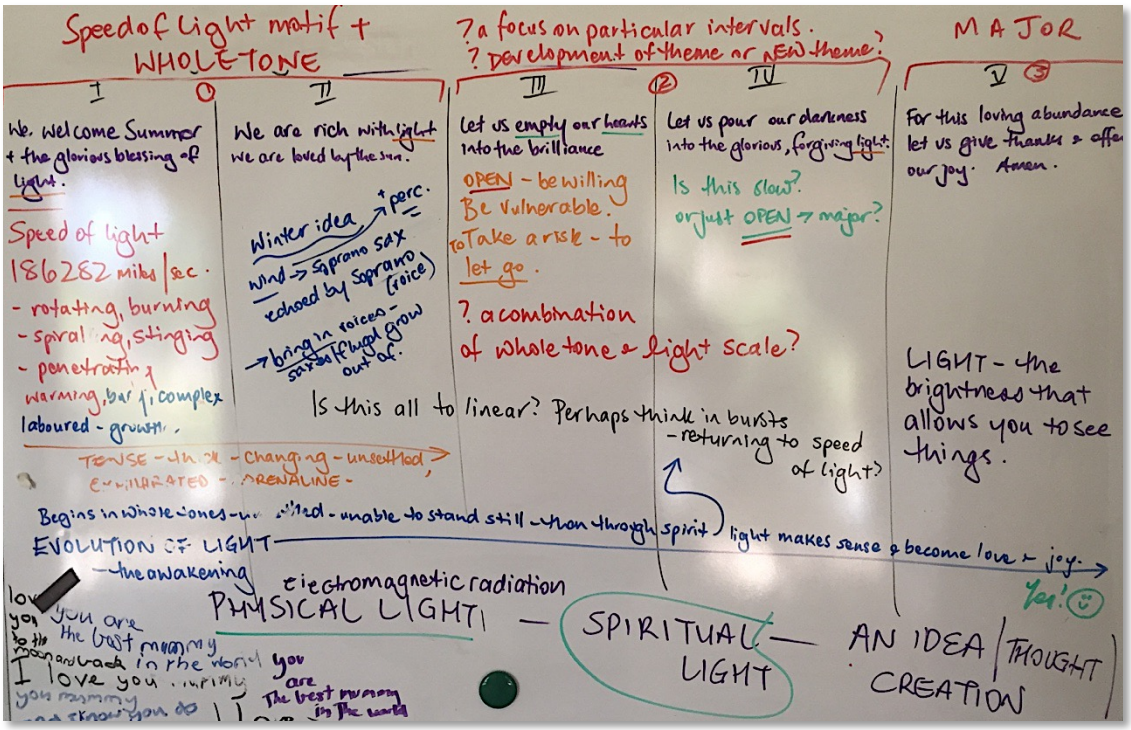


Figure 7-13 – Mind map exploring structure of Leunig's Prayer for Summer

Together, these multiple explorations in drawing, mind-mapping, listening and prayer analysis aligned the scientific explanation for the birth of a sun with the Leunig prayer, creating the following structure of the first movement:

Measures 1-21	Measures 21-103	Measures 104-117	Measures 118-end
Gravitational pull.	The formation of the Proto Star and the first bursts of gas.	The Sun forming behind the cloud of gas.	The dissipation of the gas and the birth of a Sun.

Table 7-4 – Form of Movement I, *The Blessing of Light*

Mind mapping was used extensively in all movements either through the exploration of the prayers and how they could be used to inform structure, mood and consequently, tonality. Mind maps were also used for the analysis of other works, as well as the analysis of my own emotional contextualisation of the prayers with initial musical conceptions. Mind-mapping enables me to find a pathway to realising 'colour-first' ideas. Whilst the drawings first enable 'colour-first' ideas to be released from the subconscious, mind maps provide the opportunity to detail research into other works, forms, concepts and other relevant information. Such research then aligns with the emotional reactions documented in the drawings and feeds the formulation of pitch material during the looping third and fourth stages of composition: musical conception and sketching.

Mathematical considerations

It was during my undergraduate years that I was introduced to the concept of using mathematical structures to generate pitch material and/or structural formations. Since that time, I have invariably utilised this approach when it is deemed appropriate to do so. In the first and fourth movement of the symphony, two quite different uses of mathematical concepts enable the realisations made during the *Productive Stage* of composition. One includes the use of a single number to govern pitch, form and at times, rhythmic structures in the opening movement of the symphony, *The Blessing of Light*. The other makes use of Fibonacci's "golden ratio" (Dunlap, 1997) to conceptualise the over-arching form of the final movement, *The Creation of Faith*.

The first movement of the symphony, stemming from colourful drawings, and the messages of light and love unearthed in Leunig's prayer, led to the fundamental use of the number governing the speed of light in miles per second: 186 282. Measure 1-103 is based on a scale devised from the speed of light. Commencing on G (my personal resonating pitch with the

Earth and the tonal centre that often governs the commencement of each of my compositions), I have built the scale in semitones in an ascending order (figure 7-14 shows the original sketch and score sample 7-12 better demonstrates the actual construction of the scale):

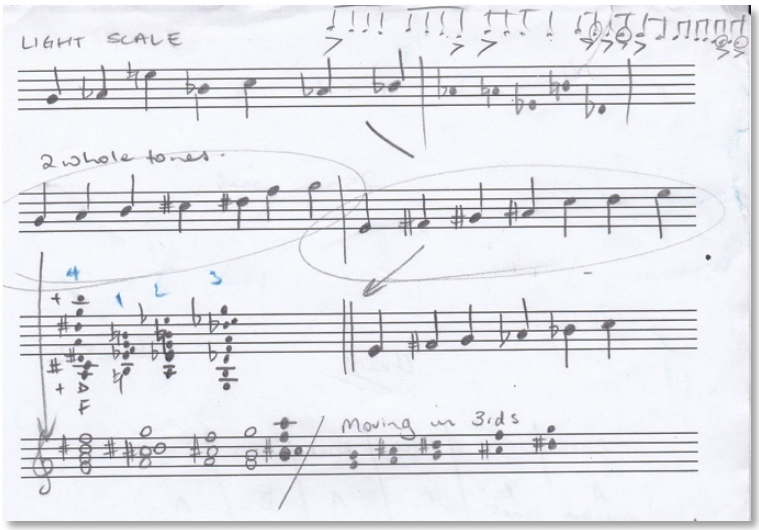
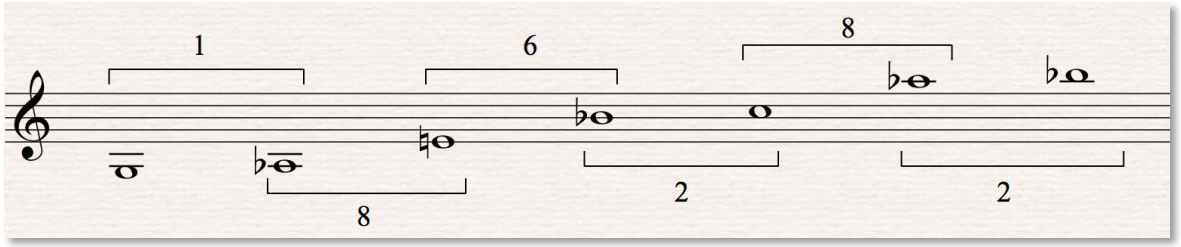
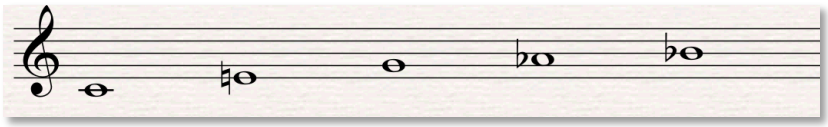


Figure 7-14 – Original sketch of scale built from the speed of light: 186 282 m/s



Score sample 7-12– Construction of the scale from the speed of light: 186 282 m/s

The result is a 5-pitch scale, that when mixed around and centred on a C tonic, provides an interesting mix of intervals and harmonic possibilities.



Score sample 7-13 – Resultant scale from the speed of light placing C as the tonal centre

As shown in the original sketch featured in figure 7-14 (above), these harmonic possibilities, as well as the use of complementing whole tone scales were also explored. Additional research revealed the formulae used to calculate the *Index of Refraction* (being the "measure of the bending of a ray of light when passing from one medium into another" https://www.britannica.com/science/light accessed October 2, 2019). Such mediums included glass, water and a variety of precious stones and crystals (https://www.rpi.edu/dept/phys/Dept2/APPhys1/optics/optics/node4.html accessed October 1, 2019). At first, I calculated the altered speed of light travelling through a variety of mediums and converted the metres/second figure to miles/second, as this offered fewer numbers that were deemed more conducive to building scales:

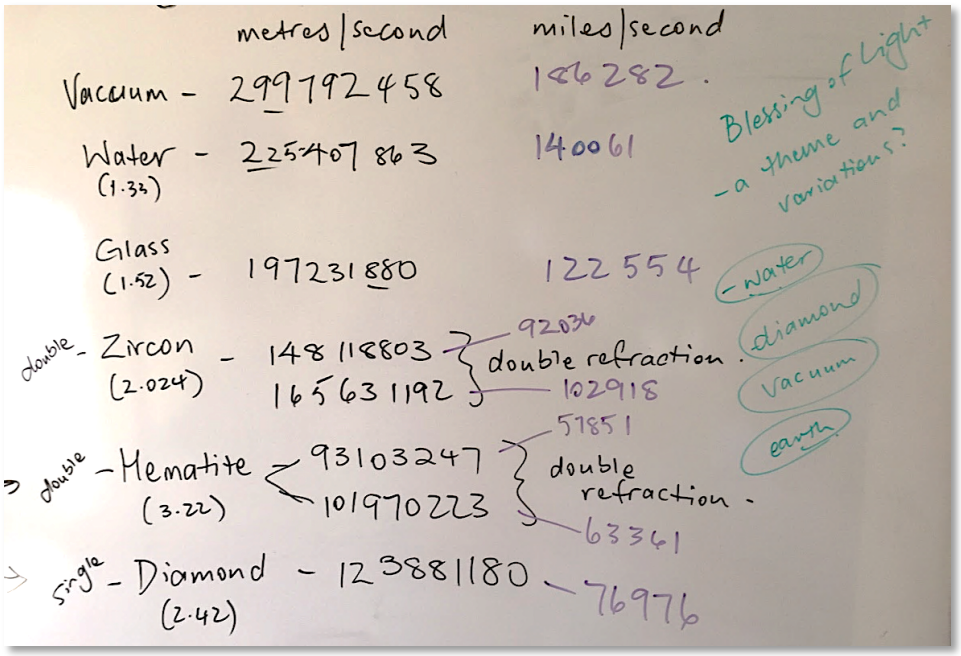


Figure 7-15 – Calculating miles/second figures for the speed of light in different mediums

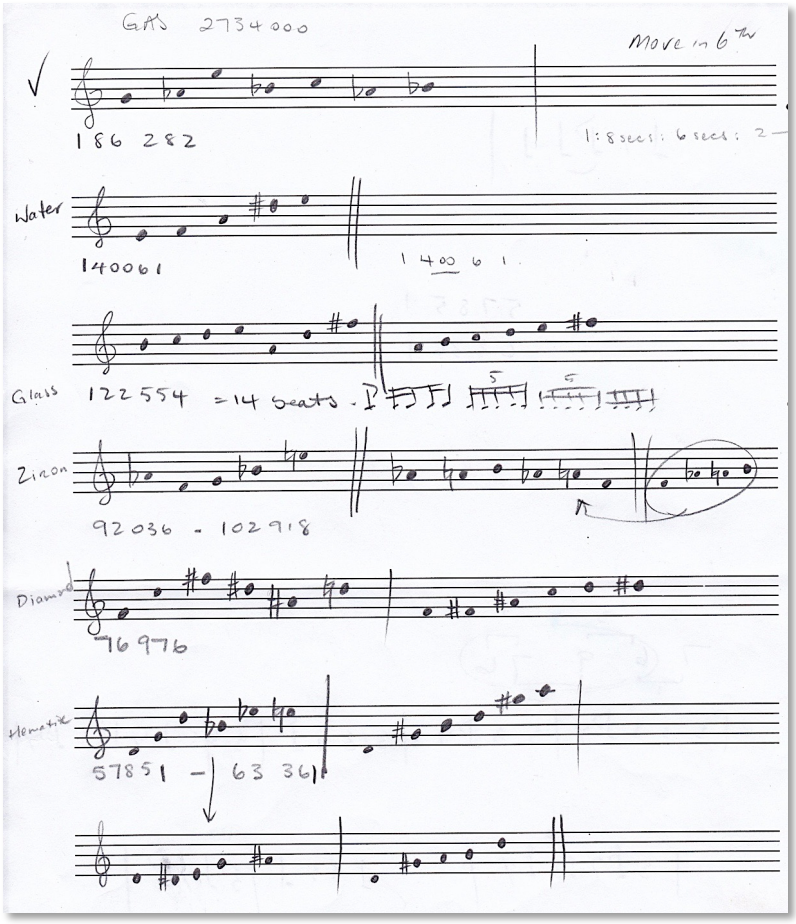


Figure 7-16 – Formulating scales from the speed of light in m/s through different mediums

From the miles/second figures I created other scales (as shown in figure 7-16). However, it was not until I created the mind map of the birth of the sun (figure 7-10, page 164) that I had the idea to not create other scales, but to alter the original scale. This idea was inspired by the refraction of white light, dispersing into the colours of the rainbow:

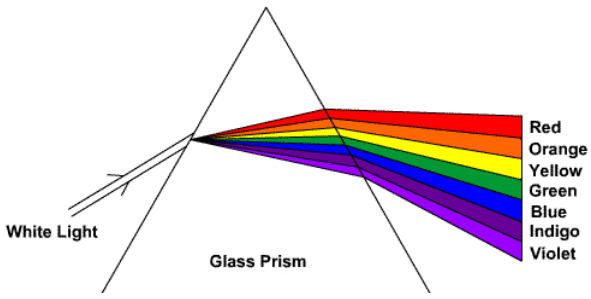
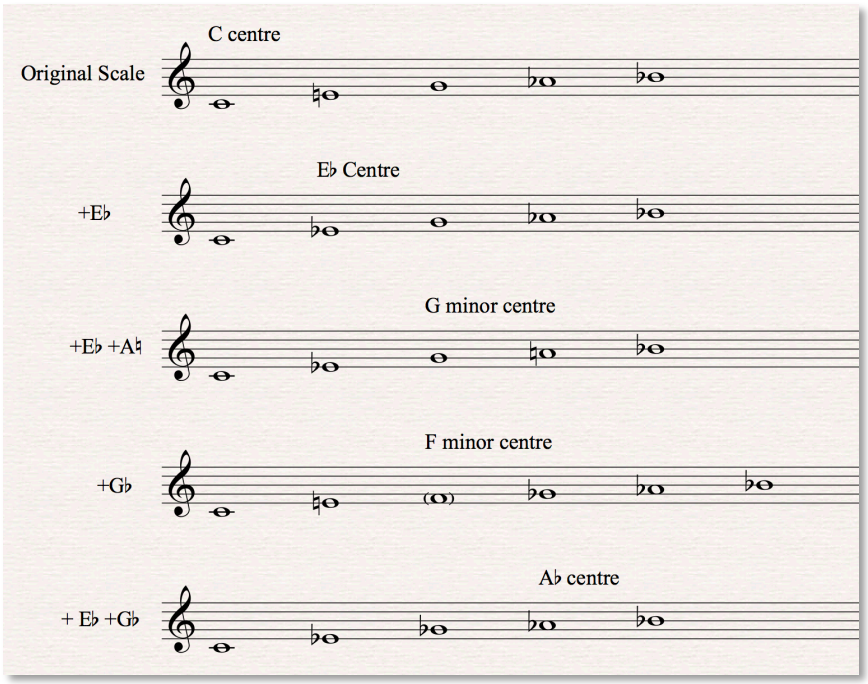


Figure 7-17 – Light refraction

(Image access from https://physics.stackexchange.com/questions/65812/why-do-prisms-work-why-is-refraction-frequency-dependent October 1, 2019)

Having relinquished the idea of using different scales based on the *Index of Refraction*, I decided to alter one-two notes in the original scale by a semitone to create four new scales with a different tonal centre. The second scale alters the original E natural to an E flat, creating a 5-note scale that resembles an E flat major scale. The third scale down retains the E flat but naturalises the A, creating a scale with G minor characteristics. The fourth scale returns the E natural, retains the A flat and lowers the G to G flat, changing the scale to an F minor and the final scale retains the G flat and once again reduces the E by a semitone, creating a scale that resembles A flat major with a flattened 7th. These minor alterations represent the dispersion of a single light beam and presented opportunity for subtle harmonic variation:



Score sample 7-14 – Scales based on the alteration of the original Speed of Light scale

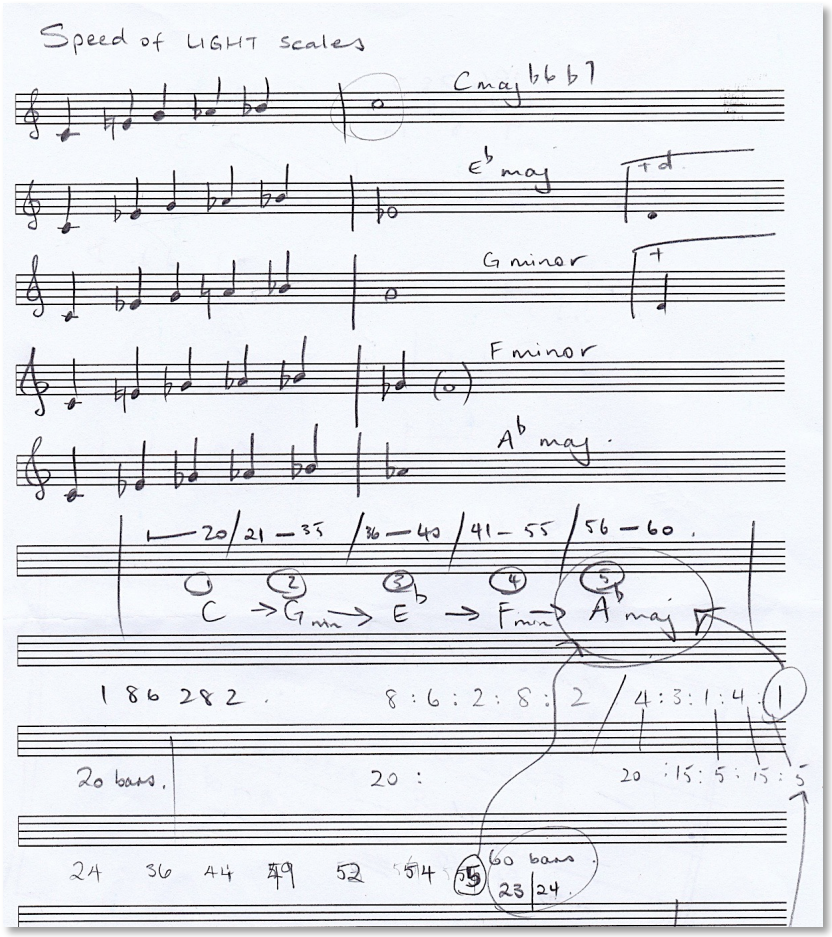


Figure 7-18 – Initial sketch of Dispersed Light scales and structural considerations

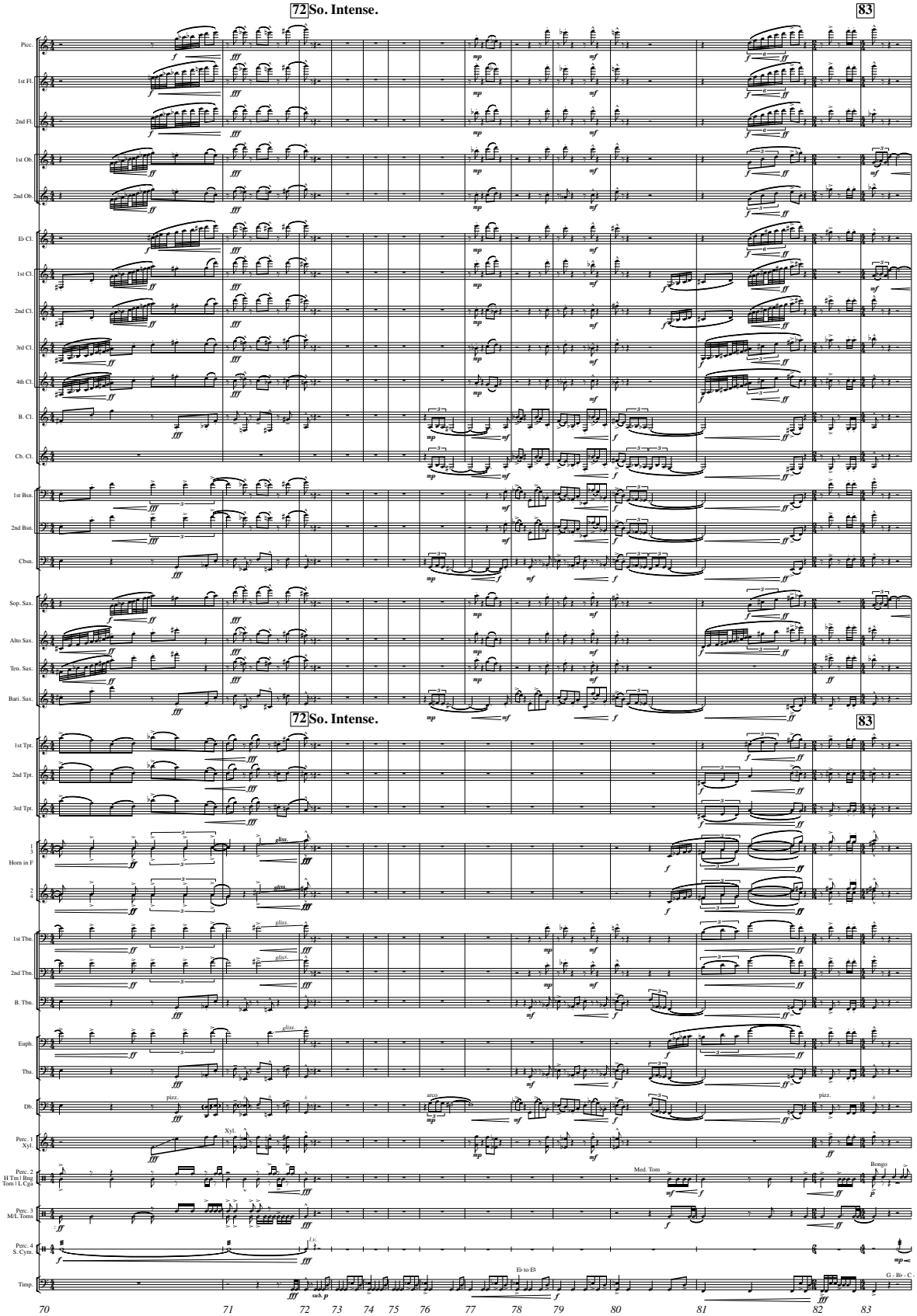
The number representing the speed of light was also used to formulate the structure of the second phase of the first movement (figure 7-18 showing the originally sketch). Each component was designed to represent the ever increasing, rotating mass of gas and dust particles that formulate a Protostar (what a Sun is called during the formative stages). The numbers 86282 were used (as I treated the first digit, "1", as the statement of the *Light theme* by the Clarinet at measure 21). To gain a clear ratio between the figures, 86282 was halved to 43141. Five measures were each proportionately assigned to number, i.e. (**4**x5)-(**3**x5)-(**1**x5)-(**4**x5)-(**1**x5) and a structure of 60 measures was created. A scale was assigned to each portion and a tangible fabric of tonality inspired the sketching and composing of this complex and fast-paced section in the first movement.

Speed of Light	**8**	**6**	**2**	**8**	**2**
Numbers halved for ratio	4	3	1	4	1
Assign 5 measures per digit and convert ratio to total measures	(4 x 5) 20 measures	(3 x 5) 15 measures	(1 x 5) 5 measures	(4 x 5) 20 measures	(1 x 5) 5 measures

Table 7-5 – Initial structural considerations for the second phase of Movement I

The result was a intense development of the Light motif, as first portrayed by Clarinet 1 in measure 21 (see score sample 7-10 on page 161). Fragments of the motif were first stated in Trumpet 1 and each component utilised the idea drawn from the analysis of the Adams fanfare, i.e. a gradual build-up in intensity in texture, timbre, harmony and pitch range.

A good example of this occurs between measures 72 and 83, where measure 71 represents the intense ending of one moment, sharply followed by a dramatic change in measure 72, with a sudden and intense flare of textural intensity leading into measure 83 (score sample 7-15):



Score Sample 7-15 – Influence of Adams on sections from *The Blessing of Light* (audio available)

The structure of the fourth and final movement of the symphony used a similar mathematical approach to the first movement; however, this time the Fibonacci series was the numerical source. In the prayer for Spring, Leunig states, “Let us see that as a bird builds its nest, bravely, with bits and pieces, so we must build human faith” (Leunig, 2006). The image of the nest, also referred to in the prayer for Winter, inspired an exploration of nest-like shapes in my initial drawings:

Figure 7-19 – Initial drawings for Spring inspired by the image of a nest

At the same time, I was reading a book about Leonardo DaVinci (Isaacson, 2017) and was reminded about the influence of Fibonacci’s Golden Ratio (Dunlap, 1997) on the artists of the

Renaissance Era. I had used the Fibonacci series in previous compositions and as the golden ratio formed the shape of a spiral, I found it to be a good match when considering the construction of the final movement.

The following sketch of the golden ratio was made in a large artist sketchbook:

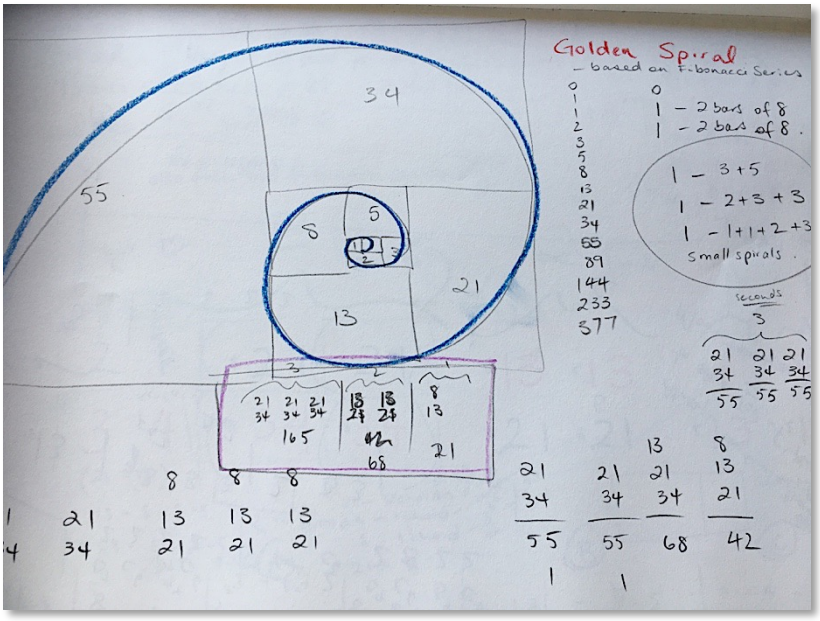


Figure 7-20 – Considering the Fibonacci Series for the fourth movement

In this sketch, I devised the idea that the fourth movement should commence with long, sweeping melodic moments that gradually decrease, emulating the shape of a swirl or nest. At this stage of the composition process, I was very conscious of timing and decided to keep the final movement to approximately six minutes. The opening figures had already been written (using the improvisation/transcription model in response to the drawing of blossoming branches, see figure 7-8 page 158) and incurred a duration of approximately 90 seconds. Hence, it was my objective to contain the remainder of the movement to 4' 30''. The Fibonacci series was thus used to calculate a ratio in seconds. From these calculations, I created a swirling structure that totalled 4'30''. The numbers in the following example, written on each line of the 'nest', use seconds as the term of measurement:

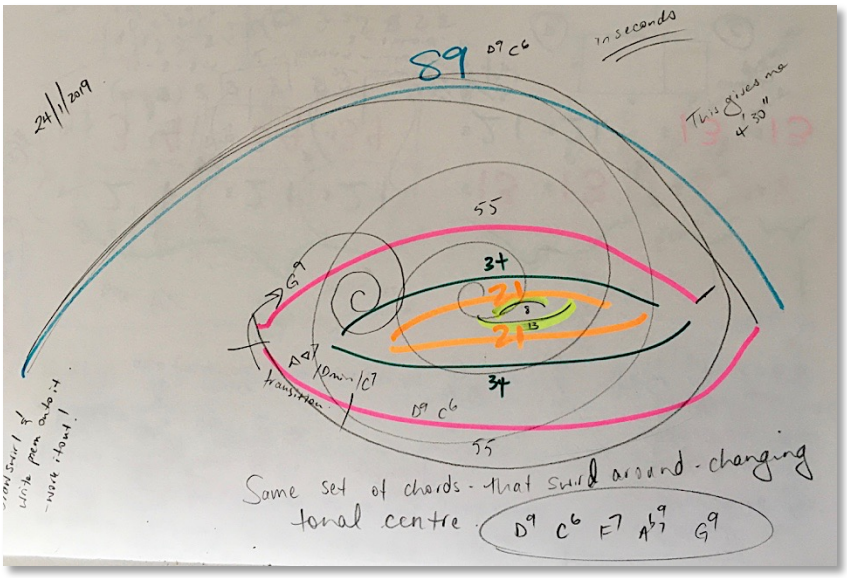


Figure 7-21 – Generating a swirling structure based on the Fibonacci series

The number of seconds were calculated into measures based on a tempo of ♩=88. A harmonic progression was determined for each arc of the swirl:

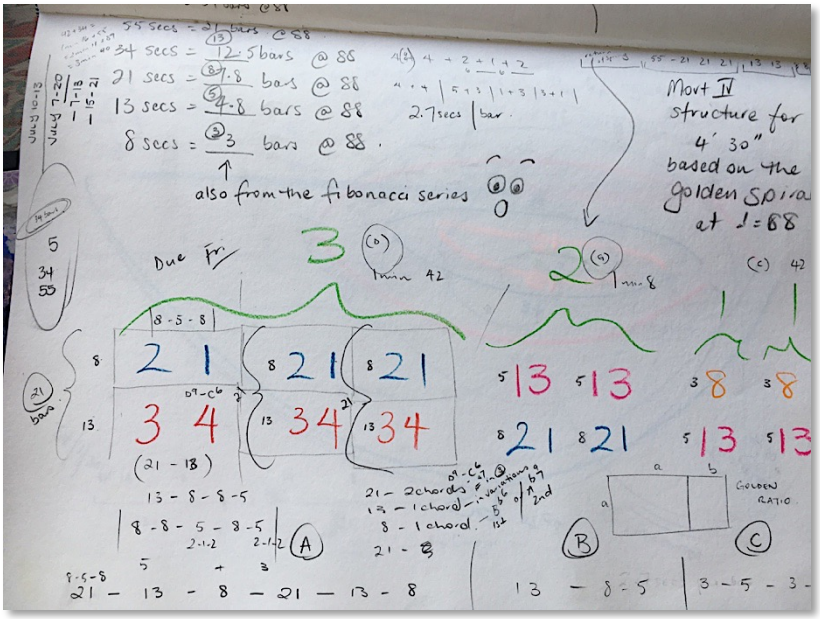


Figure 7-22 – Translating seconds to measures for the fourth movement

From here, a linear interpretation of the swirl was created, and when mixed with drawing concepts that delineated ideas for melodic material, the blueprint for the final movement was established (see figures 7-23 and 7-24):

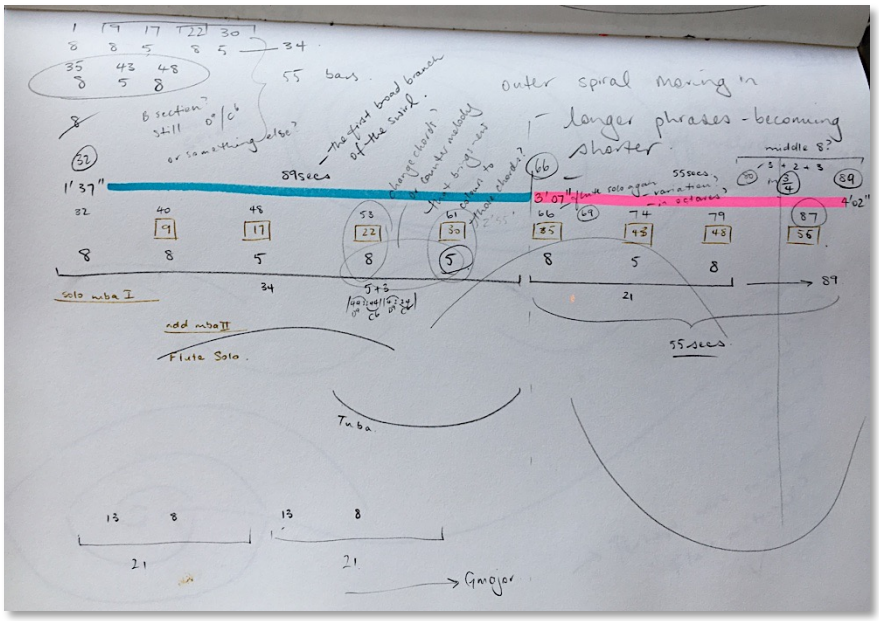


Figure 7-23 – Moving from the swirl to a linear concept

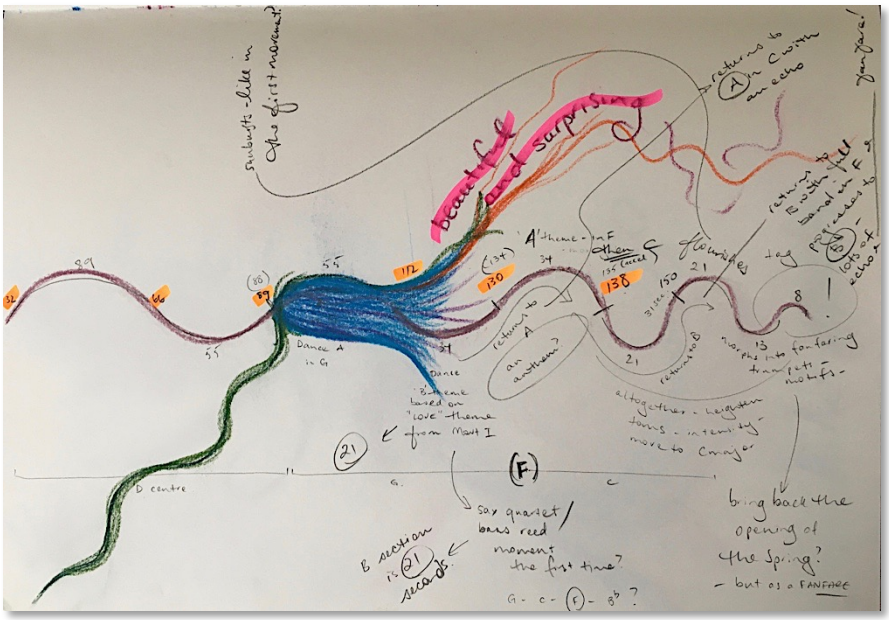


Figure 7-24 – Using mathematical concepts, drawing and mind mapping to formulate the fourth movement, *The Creation of Faith*

Symphony No. 1 Leunig's Prayer book takes the audience through a microcosmic journey of the cycle of life. To capture the multitude of emotions and experiences collected along the way, it was imperative to not only align with the life force of the universe, but to also take myself through a deeply personal expedition. The prayers by Leunig offered the blueprint for the cycle and explorations in drawing, journaling, mind mapping, mathematical considerations

and improvisation and transcription provided channels for generating emotionally connected musical material. Each of these processes stemmed from 'colour-first' ideas that were instigated by my emotional response to Leunig's prayers for each season. The whole process, from beginning to end, represents a total of four years of pondering, research, experimentation and emotional exploration. The result is a timbral celebration of the wind band that aligns with an emotional celebration of humanity and the need for us all to maintain "our natural and vital role within the miracle of Spring: the creation of faith" (Leunig, 2006).

Conclusion

A 'colour-first' composer is defined as one who inherently composes with tone colour from the very beginning of the compositional process. *Wearing tone coloured glasses: a 'colour-first' compositional approach to the modern wind band* is an autoethnographical study that has substantiated this definition and confirmed that a composer can indeed be deemed 'colour-first'. The portfolio of works created for this study are composed for the modern wind band. Whilst the proficiency of the musicians performing these works varied, and at times, provided limitation, this study not only delved deep into my own 'colour-first' approach, it also demonstrated that for me, personally, the compositional process and 'colour-first' approach remained unchanged, regardless of the targeted performing ensemble.

Summary

'Wearing tone coloured glasses' explored the relationship between compositional process and the substantive influence of tone colour. At first, I thought I was experimenting with alternate compositional strategies during the latter stages of the compositional process. However, it was the following quote by Rimsky Korsakov that made me realise that what I was actually doing, was composing with tone colour from the very beginning of my creative process:

> It is a great mistake to say: this composer scores well, or, that composition is well orchestrated, for orchestration is part of the very soul of the work. A work is thought out in terms of the orchestra, certain tone colours being inseparable from it in the mind of its creator and native to it from the hour of its birth.
> (Rimsky-Korsakov, 1923, p. 120)

After reading this quote, I devised the following definition of a 'colour-first' composer:

> A ‘colour-first’ composer is one who inherently composes with tone colour from the very beginning of the compositional process.

Thus, the main goal was to verify this definition and, utilising an autoenthnographical methodology, study my own portfolio works through a ‘colour-first’ lens. To achieve this goal, three aims and two objectives were established:

> **Aim 1:** *Define the ‘colour-first’ composer and my own ‘colour-first’ approach;*
> **Aim 2:** *Explore the ‘colour-first’ approach through the creation of a portfolio of works for wind band of varying ability;*
> **Aim 3:** *Investigate the impact of formative development and career progression on my compositional process and product.*

> **Objective 1:** Conduct a study into American wind band history to ascertain developments in instrumentation and genre in order to contextualise the portfolio of works within wind band repertoire.
> **Objective 2:** Use autobiographical processes such as reflection, journaling, mind-mapping and drawing to identify aspects of a ‘colour-first’ compositional approach when composing works for both apprenticing and professional musicians.

The aims guided the study to validate and substantiate the ‘colour-first’ definition, and it is hoped the objectives may inform future compositional practise and guide more accurate placement of works within the expanse of wind band literature.

Validating the definition of a ‘colour-first’ composition

The first two aims of the study were focused on achieving the main goal of verifying the definition of a ‘colour-first’ composer as one who inherently composes with tone colour from the very beginning of the compositional process. To clarify the definition, the key terms “inherently”, “tone colour” and “creative process” were investigated as these were deemed pivotal to the validation of the definition.

Firstly, the etymology of the terms *tone colour* and *timbre* were explored. The French word *timbre* was first used in 1765 by Swiss Philosopher Jean Jacques Rousseau in Diderot's Encyclopaedia (Diderot, 1765) under the entry for sound. The German term *klangfarbe* first appeared in Gustav Schilling's *Encyclopedia of all Music Sciences* (Schilling, 1837). It was later used in Herman van Helmholtz's seminal text *On the sensation of tone as a physiological basis for the theory of music* (Von Helmholtz, 1863). *Klangfarbe* was converted to the English term 'tone colour' by phoneticist Alexander Ellis 1885 whilst he was translating the famous Helmholtz text. The explosion of technological advancement in musical instruments during the 1800's brought about great change in musical ensembles and this, plus significant scientific research conducted into the physics of sound, all contributed to the tone colour/timbre becoming a regular part of musical vocabulary by the end of the nineteenth century.

Secondly, research in creative process was conducted. A progression of studies was discovered commencing with the 2004 article *How composers compose: in search of questions* by Bernard Andrews (Andrews, 2004). The Andrews article inspired research into the formative work of Stan Bennett, *The process of musical creation: Interviews with eight composers* (Bennett, 1976), Max Graf, *From Beethoven To Shostakovich-The Psychology Of The Composing Process* (Graf, 2013, originally published in 1947) and Graham Wallas, *The Art of Thought* (Wallas, 1926). Each of these studies explored the componential stages of creativity and/or compositional process.

Wallas, having reviewed the creative processes of famous researchers such as Helmholtz (1821-1894) and Poincaré (1854-1912), provided the fundamental "Four stage model of the creative process". In his *Four stage model*, the creative mind progressed through a linear passage of "preparation", "incubation", "illumination" and "verification" stages when determining and validating a new idea.

Graf also devised a four-stage creative model (without reference to the preceding work of Wallas); however, Graf's work was not centred on the process of music composition. Graf was an Austrian music critic and psychologist and devised his model from the analysis of sketches

of composers post the production of their work. Graf did not limit his study to sketches, he also consulted letters and diaries to provide personal accounts of the composer's personality and disposition. Graf also interviewed living composers about their creative process. The result of his study was four progressive stages of composition:

1. Productive Mood
2. Musical Conception
3. Sketching, selection and organisation
4. Composition

In 1976 Stan Bennett furthered the study conducted by Max Graf; however, Bennett collaborated with eight living composers to gain further insights into compositional processes (Bennett, 1976). Bennett concluded that whilst the four stages of composition ascertained by Graf were valid, he also suggested that the stages could be broken down into smaller steps, with some repeated several times before any further progression was made. Bennett also alluded to the concept of the impact of 'first' compositional experiences on the development of a composer in the latter stages of their career.

Each of these studies plus additional research into compositional process (Upton, 2005; Folkestad, 1997; Aranosian, 1981; Barrett, 2003), provided further evidence that composers engage in a preliminary creative stage before any notes are sketched. For Wallas, it was the "Preparation" stage, for Graf, the "Productive Mood" and for Bennett, the "Germinal idea". Graf and Bennett also proposed that life experience was most prominent on creative thought processes during the preliminary stage of composition. Whilst this research defined compositional process, my proposed definition is focused on the notion that a composer is thinking in tone colours from the *very beginning* of their process. Therefore, research into the initial stages of creative thought, and their link to natural and/or learned capability had to be conducted in order to ascertain *when* such thoughts occurred and whether or not they may be deemed 'inherent'.

To explore the term 'inherent' I posed the question: *Is there any correlation between research into compositional processes and creativity that further validates the definition of a 'colour-first' composer'?*

A commonly cited study into the social psychological aspects of creativity by Terese Amabile in 1983 confirmed that yes, there is a strong correlation between studies into compositional and creative processes. Amabile's *Componential Stages of Creativity* commence with what she called "Domain Relevant Skills" (Amabile, 1983). Amabile identified *Domain-Relevant Skills* as "the basis from which any performance must proceed" (Amabile, 1983, p. 362), in other words, the fundamental starting point. She also stated that it is during this formative phase of creative performance that "a composer [has the] ability to hear in imagination all the instruments playing together" (Amabile, 1983, p. 363). Whilst Amabile attributed this to a "*talent",* she also proposed that this talent is "innate". Amabile considered that a creative thinker's *Domain Relevant Skills* were both learned and innate, i.e. a combination of natural abilities and learned skills. For a 'colour-first' composer, that may be a natural tendency towards hearing initial musical ideas in tone colours, and then having the skills to transform these colourful ideas into musical compositions.

Amabile's consideration of initial creative thoughts developing as the result of both innate and learned skills align with the definition of a 'colour-first' composer, that being one who naturally considers creative thoughts in tone colours from the very inception of the creative process. This is supported in the writings of other prominent composers. Rimsky-Korsakov proposed that tone colour was considered in the mind of some composers "from the hour of its birth", and Schoenberg spoke of the influence "inner logic" when he devised his *klangfarbenmelodie* (Cramer, 2002; Kursell, 2013). Additionally, Pierre Boulez presented that timbre, in its own right was the language of a composer, "… timbre, through composition, should integrate itself totally with musical language in a multidimensional world where its specificity will be the measure of its importance" (Boulez, 1987, p. 171). These personal accounts and the research conducted into the creative and compositional process, confirmed that an initial stage of composition, nurtured by innate and learned skills, did exist. For me, it was during this stage of the "unseen" compositional process that musical ideas, expressed in

tone colours, first appeared. To provide further evidence for these timbral imaginings, a thorough investigation into my own compositional practice was necessary.

Reviewing the 'colour-first' portfolio

To maintain an extrinsic perspective and shed light onto how my natural tendencies towards tone colour had developed throughout my life, (achieving the third aim of the study: to investigate the impact of formative development on my compositional voice), I returned to the original paper that guided my investigations into creative processes: *How composers compose, in search of questions* (Andrews, 2004). In his research, Andrews devised a set of twenty questions in the hope of probing composers for more detail about their compositional process. The end result was 20 questions designed to be used in more elementary educational settings, hence, not all questions were deemed relevant. However, the overall construct of the investigative model proved useful and guided the next stage of the study. Andrews divided his 20 questions into four main categories entitled with words commencing with the letter P. He called it his 'P4' model:

1. Person (biographical information)
2. Prerequisite (education and training)
3. Process (compositional/creative)
4. Product (the compositions produced)

I used the Andrews P4 model to guide research into my own 'colour-first' approach. Chapter 3 studied the element of "Person" to investigate how I developed a penchant for creating initial musical thoughts through tone colour. Chapters 3 and 4 explored my musical education and training (prerequisite) and provided further evidence for Bennett's claim that a composer's first experiences continue to influence their compositional voice into adulthood. In Chapters 4 to 7, I thoroughly investigated my compositional process, with an in-depth review of how timbral 'germinal ideas' are translated into musical scores through the process of drawing, mind-mapping, journaling and sketching. The eight works featured in the creative portfolio were central to this research.

As Amabile suggested, *Domain Relevant* Skills are a combination of both innate capability and learned skills. Hence to ascertain my own innate capability and learned skills, three of Andrews' questions relating to composer development as a result of their upbringing and education guided my autobiographical research:

1. What early experiences facilitate a composer's musical creativity?
2. What is the impact of age, gender and cultural background on the formative development and career progression of composer?
3. What progression can be identified in a composer's career?

In addition to these questions by Andrews, I also posed the question: In a general sense, what happens during each of my compositional stages and can links be drawn between them and early composing/musical experiences and career opportunities?

Conclusion

The answers to these questions provided great insight into my own compositional processes and revealed a deeper connection to tone colour than first realised. Early exposure to music, music teachers, instruments played, and familiar influences all had a significant impact on my development of creative musical thoughts. Career opportunities, including my music education, as well as the geographical location of my upbringing and early vocational experiences all influenced, and continue to influence, the development of my compositional voice.

I believe that I developed into a 'colour-first' composer as a result of numerous *first*, or early experiences. This is an idea initially suggested by Stan Bennett, and then later adapted into a question for composers to consider by Andrews:

> What early experiences facilitate a composer's musical creativity? (Andrews 2004)

For me, early experiences include an exposure to many different kinds of music from a very young age. The first musical memory I have is listening to *Peter and the Wolf*, by Sergei Prokofiev (1891-1953). I remember being fascinated by the melodic lines and how they matched the shape, personality and colour of the animals each represented. I believe it was

here that a link was formed between tone colour and shape that has now become a natural part of my musical conceptualisation.

The link between tone colour and shape was later fostered by the first instrument I played: the Yamaha Electone Organ. The impact of the Organ on my compositional voice is undeniable. My fascination with blending analogue tone colours on the Organ kept me entertained for hours on end. My teachers for this instrument encouraged my creativity, and also helped me to develop a harmonic language inspired by the progressions found in jazz, salsa, show tunes and rhythm and blues. That said, whilst developing a harmonic language and a musical understanding, it was always explored through elaborate changes in tone colour. Hence my first musical memory and first musical instrument fostered a life-long fascination with the expression of tone colour through musical textures and harmonies.

When studying a composition degree with Larry Sitsky, I found a teacher who was dedicated to unearthing the natural voice of the composition student. Sitsky did not wish for me to sound like any other composer, and like my instrumental teachers before me, encouraged my penchant for exploration in tone colour. In my third year of undergraduate study, I believe another set of *firsts* occurred, as this was the year that I felt I wrote the first music that contained my own, original voice. By this time, I had the skills and personal awareness to identify with my innate abilities, and express them in musical forms.

In terms of career development, it was my long association with education that lured me to the field of education after I had completed my undergraduate degree. My second instrument had been the Clarinet and I had spent my teenage years playing in concert and jazz bands. Throughout my undergraduate degree I continued to teach Clarinet, saxophone and keyboard to young children and frequently tutored on music camps in rural areas. When the opportunity came to build a teaching practise in a remote part of New South Wales, I jumped at the chance. This experience guided me into a career pathway of composing, teaching and conducting. I would frequently write music for my ensembles as they were often made up of children with mixed capabilities. Through the many years of teaching in a variety of educational settings throughout the South East of Australia, I developed my own compositional voice for

educational ensembles made up of woodwind, brass and percussion instruments. I was isolated and rarely heard other ensembles. I believe that the furthered development of my 'colour-first' voice at university, and its application to compositions for children with limited capability, fostered my unconventional approach to writing for the modern wind band.

I have not taught in a formal position in an institution since 2011, yet I continue to provide workshops and professional development seminars for teachers and their students throughout the Western world. In 2006, I won an international composition contest for works for elementary wind bands. This success fostered a composing life centred on works for the wind band. My career and the opportunities it has provided have all had a profound impact on the kind of ensemble I write for; however, my compositional voice has remained steadfast to its timbral fascination.

Whilst other composers may cite rhythm, melody or a harmonic progression as their first consideration, for the tone colour composer there is a clear and primary timbral concept. The remainder of the process is designed to unearth these timbrally-soaked ideas and translate them into musical offerings. For me, the use of visual colours, translated through drawing, mind mapping and other imagery help to translate timbral thoughts into musical imagery. When it comes to the generation of pitch material, various tools including the improvisation/transcription loop (at times resulting in the flow state), the utilisation of mathematical structures, external influences such a books, poetry, natural structures and scientific phenomena all help to inform the selection of specific musical pitches deemed appropriate for that particular work.

My portfolio of works demonstrate that my unconventional treatment of the wind band stems from a fascination with tone colour. Some of my works for apprenticing musicians fit into the "student-focused" genre and are not the more traditional performance-style pieces. These "student-focused" works, such as *Sculpturesque,* offer students the opportunity to become more intrinsically engaged in the music making process, by changing aspects of the music itself through a 'colour-first' lens. Whilst "student-focused" works are not necessarily designed for concert performances, they do offer children the opportunity to experience music through

the eyes of a 'colour-first' composer and learn that the page of music in front of them need not be a fixed idea.

In the works categorised as 'exploratory' and 'concert-works', I discovered that emotional attachment to the *germinal idea* in the initial phase of composition made these works more conducive to traditional concert performance. In works such as *Catango 5* and *13 Moons*, I realised in my research that having an emotional intent was the key difference between a work written as a teaching resource, and a work written as a musical expression. Whilst there is some overlap, this distinction will continue to inform my compositional practice and significantly impact my approach.

When composing the symphony, I learned something about myself that greatly informed the journey of this study: I AM a 'colour-first' composer and when I try to be something other than that, the compositional process becomes very difficult. For some time, I lost sight of my 'colour-first' voice and attempted to create a work in a different image. The fascination with the voice of Leonard Bernstein (1918-1990) and John Adams (b. 1947) when writing the first movement made me feel that I needed to compose music like someone else. The prayers written by Michael Leunig filled me with trepidation and I became overwhelmed by the thought of doing them justice. I stopped trusting myself and more importantly, I stopped trusting my innate 'colour-first' capabilities. The ultimate lesson that I have learned as a result of this study, that will continue to feed my compositional practice, is that I do, indeed, have an inherent tendency to think in tone colour, and it is at first expressed through drawing and mind mapping, then later developed into musical expressions through improvisation, transcription and sketching. These adventitious aspects of the compositional process allow the subconscious rumblings of my musical creativity to venture into consciousness. They are a vital and important aspect of the process and should be whole-heartedly embraced.

In conclusion, I have learned that the 'colour-first' approach is a valid and very real compositional approach, and that my contributions to wind band repertoire whilst unconventional, stretch the timbral capabilities of the ensemble and provide opportunities for apprenticing musicians to experience music through a 'colour-first' lens.

Areas for further study

It is hoped that through this study, a spotlight may be placed on composers who do not use the familiar compositional devices of theme and development as a means for musical expression. In addition, it is hoped that their works may be investigated through an alternate lens and value found when attention is given to timbral consideration.

There are also pedagogical possibilities for the 'colour-first' approach. The adaptation of the 'colour-first' process in works such as *13 Moons* enables students, who are learning music in a large ensemble context, to engage in a creative, music making activity. At a tertiary level, inviting students to engage in a 'colour-first' music making unit may demonstrate to some composition students their preference for such an approach and provide additional insights into their compositional strengths. In addition, a study into the impact of personality testing on composition students and how this may inform their creative approach may also be a highly informative tool for tertiary composition educators.

The P4 model of questioning devised by Andrews in 2004 opens the door for many applications. I believe educators and composers alike would greatly benefit from a repeat of this study. In the repeated study the researcher may either focus their end goals on informing outsiders about the approach taken by a composer or, informing the composer themselves about their creative process. The former could become a tool used in musicology circles and the latter, used by apprenticing composers to better inform their own practice.

The Bennett study touched on the concept that a composer's first experiences may continue to inform their compositional voice throughout their creative life. I believe there is great scope to conduct additional studies into this concept with living composers, with particular attention to the impact of gender, cultural background and first instrument played on the development of a composer's musical preferences. Furthermore, the autoethnographical approach taken in this exegesis that primarily marries the research of Graf and Bennett may prove to stand alone as a model for use by other post-graduate composition students.

Lastly, I believe a study into the correlation between the 'colour-first' approach and Australian composers would reveal an interesting perspective into the ongoing development of an *Australian* musical sound. In my own case, I believe that growing up in the wide-open spaces of the Riverina, New South Wales has influenced my compositional voice bringing with it not only a fascination with timbral diversity, but also, due to isolation from the American wind band culture, a voice in the wind band medium that offers unique offerings to the repertoire.

Bibliography

Adams, J. (1992). Two Fanfares for orchestra (including Tromba lontana; Short Ride for a Fast Machine). New York: Boosey and Hawkes.

Allsup, R. E. (2012). The Moral Ends of Band. *Theory into Practice, 51*(3), 179-187. doi:10.1080/00405841.2012.690288

Allsup, R. E., & Benedict, C. (2008). The problems of band: An inquiry into the future of instrumental music education. *Philosophy of Music Education Review, 16*(2), 156-173.

Amabile, T. M. (1983). The social psychology of creativity: A componential conceptualization. *Journal of personality and social psychology, 45*(2), 357.

Anderson, J. D. (1991). Varèse and the Lyricism of the New Physics. *MUSICAL QUARTERLY*, 31-49.

Andrews, B. W. (2004). How composers compose: In search of the questions. *Research & Issues in Music Education, 2*(1), 3.

Apel, W. (2003). *The Harvard dictionary of music*: Harvard University Press.

Apollo, Q. S. (1994). First and Foremost. London: The Decca Record Company.

Aranosian, C. M. (1981). Musical creativity: The stream of consciousness in composition, improvisation, and education. *Imagination, Cognition and Personality, 1*(1), 67-88.

Backus, J. (1988). Liszt's" Sposalizio": A Study in Musical Perspective. *Nineteenth-Century Music*, 173-183.

Bahle, J. (1947). *Der musikalische Schaffensprozess: Psychologie der schöpferischen Erlebnis- und Antriebsformen* (Vol. 1): P. Christiani.

Baines, A., & Boult, A. (1991). *Woodwind instruments and their history*: Courier Corporation.

Baker, V., & Biggers, C. (2018). Research-to-Resource: Programming Ensemble Literature Composed by Women. *Update: Applications of Research in Music Education, 0: 8755123318761915*, 1-4.

Barrett, M. S. (2003). Freedoms and constraints: Constructing musical worlds through the dialogue of composition.

Barron, F. (1955). The disposition toward originality. *The Journal of Abnormal and Social Psychology, 51*(3), 478.

Battisti, F. L. (1995). *The twentieth century American wind band/ensemble: history, development and literature*: Meredith Music Publications.

Battisti, F. L. (2002). *The winds of change: The evolution of the contemporary American wind band/ensemble and its conductor*: Hal Leonard Corporation.

Bedford, D. (1998). *Fridiof kennings: for saxophone quartet*: Universal-Edition.

Bennett, S. (1976). The process of musical creation: Interviews with eight composers. *Journal of Research in Music Education, 24*(1), 3-13.

Bennett, S. (1976). The process of musical creation: Interviews with eight composers. *Journal of Research in Music Education, 24*(1), 3-13.

Berlioz, H., & Strauss, R. (1985). *Treatise on instrumentation*: Alfred Music Publishing.

Bernstein, L. (1961). Symphonic Dances from West Side Story. New York: Boosey and Hawkes.

Bierley, P. E. (1973). *John Philip Sousa: American Phenomenon (Revised Edition)*: Alfred Music.

Bird, J. (1999). *Percy Grainger*: OUP Oxford.

Blatter, A. (1997). *Instrumentation and orchestration*: Wadsworth Pub Co.

Blom, E., & Stevens, D. (1955). *Grove's dictionary of music and musicians*: St. Martin's Press.

Boulez, P. (1987). Timbre and composition - timbre and language. *Contemporary Music Review, 2*(1), 161-171. doi:10.1080/07494468708567057

Bowers, F., & Aškenazy, V. (1974). *The new Scriabin: Enigma and answers*: David and Charles.

Brewer, W. (2018). A Content Analysis of Recommended Composers in Repertoire Lists for Band. *Research and Issues in Music Education, 14*(1), 3.

Briggs, K. C. (1976). *Myers-Briggs type indicator*: Consulting Psychologists Press Palo Alto, CA.

Bruchac, J., London, J., & Locker, T. (1997). *Thirteen moons on turtle's back: A Native American year of moons*: Puffin Books.

Brun, P. (2000). *A new history of the double bass*: P. Brun Productions.

Bruner, J. S. (1990). *Acts of meaning* (Vol. 3): Harvard University Press.

Bruner, J. S. (2009). *The process of education*: Harvard University Press.

Budiansky, S., & Foley, T. W. (2005). The quality of repertoire in school music programs: Literature reviews, analysis, and discussion. *Journal of the World Association for Symphonic Bands and Ensembles, 12*, 17-39.

Burnard, P. (2012). *Musical creativities in practice*: Oxford University Press.

Caine, R. N. (2009). *12 Brain/Mind learning principles in action: Developing executive functions of the human brain*: Corwin Press.

Caine, R. N., & Caine, G. (1990). Understanding a Brain-Based Approach to Learning and Teaching. *Educational Leadership, 48*(2), 66.

Caines, J. E. (2012). *Frederick Fennell and the Eastman Wind Ensemble: The Transformation of American Wind Music Through Instrumentation and Repertoire.* (Dissertation/Thesis). ProQuest, UMI Dissertations Publishing,

Campo, D. W. (2007). *Original music for wind band in the latter half of the 1950s: A historical perspective.*

Carroll, L. (2009). *Alice in Wonderland: & Through the Looking Glass*: Sterling Publishing Company, Inc.

Chon, S. H., Huron, D., & DeVlieger, D. (2018). An Exploratory Study of Western Orchestration: Patterns through History. *Empirical Musicology Review, 12*(3-4), 116-159.

Cipolla, F. J. (1988). Patrick S. Gilmore: The Boston Years. *American Music*, 281-292.

Clappé, A. A. (1911). *The Wind-band and Its Instruments: Their History, Construction, Acoustics, Technique and Combination, for Bandmasters, Bandsmen, Students and the General Reader*: H. Holt.

Clappé, A. A. (1921). *The principles of wind-band transcription*. United States.

Collins, D. (2016). *The Act of Musical Composition: Studies in the creative process*: Routledge.

Conway, C., Eros, J., Pellegrino, K., & West, C. (2010). Instrumental Music Education Students' Perceptions of Tensions Experienced During Their Undergraduate Degree. *Journal of Research in Music Education, 58*(3), 260-275.

Cramer, A. (2002). Schoenberg's Klangfarbenmelodie: A Principle of Early Atonal Harmony. *Music Theory Spectrum, 24*(1), 1-34.

Csikszentmihalyi, M. (1991). *Flow: The psychology of optimal experience* (Vol. 41): HarperPerennial New York.

Davis, A. L. (1987). *A history of the American Bandmasters Association.* Arizona State University,

de Andrade Martins, R., & Silva, C. C. (2001). Newton and colour: the complex interplay of theory and experiment. In *Science Education and Culture* (pp. 273-291): Springer.

Dement, W. (1958). The occurence of low voltage, fast, electroencephalogram patterns during behavioral sleep in the cat. *Electroencephalography and clinical Neurophysiology, 10*(2), 291-296.

DeVoto, M. (2003). The Debussy sound: colour, texture, gesture. *The Cambridge Companion to Debussy*, 179-196.

Dewey, J. (1923). *Democracy and education: An introduction to the philosophy of education*: Macmillan.

Dictionary, O. E. (2004). Oxford English dictionary online. *Mount Royal College Lib., Calgary, 14*.

Diderot, D. (1765). *Encyclopédie: ou dictionnaire raisonné des sciences, des arts et des métiers*.

Dolan, E. I. (2013). *The orchestral revolution: Haydn and the technologies of timbre*: Cambridge University Press.

Dunlap, R. A. (1997). *The golden ratio and Fibonacci numbers*: World Scientific.

Dvorak, R. (1952). The International Band Score. *The Instrumentalist* (October), 12.

Farlex Dictionary of Idioms. (2015). *S.v. "to beat the band."* Retrieved from https://idioms.thefreedictionary.com/to+beat+the+band

Feist, G. J. (1998). A meta-analysis of personality in scientific and artistic creativity. *Personality and social psychology review, 2*(4), 290-309.

Feldman, D. H. (1994). *Beyond universals in cognitive development*: Ablex Publishing.

Fennell, F. (1954). *Time and the winds: A short history of the use of wind instruments in the orchestra, band and the wind ensemble*: Kenosha, Wis: G. Leblanc Company.

Folkestad, G. (1995). Computer based creative music making: Young people's music in the digital age.

Folkestad, G., Lindström, B., & Hargreaves, D. J. (1997). Young people's music in the digital age: a study of computer based creative music making. *Research Studies in Music Education, 9*(1), 1-12.

Fonder, M. L. (1983). *An Investigation of the Origin and Development of Four Wisconsin High School Bands.* University of Illinois,

Fowler, J. (2017). BBC Proms Survey 2017. *Proms Survey.* Retrieved from http://www.womeninmusic.org.uk/proms-survey.htm

Fraschillo, T. V. (2014). Russell Hammond, Father of the Australian Band Movement. *Journal of band research, 50*(1), 13.

Gardner, H. (1992). *Multiple intelligences* (Vol. 5): Minnesota Center for Arts Education.

Gardner, H. (2011). *Frames of mind: The theory of multiple intelligences*: Hachette UK.

Gardner, H., & Art, M. (1982). Brain: A Cognitive Approach to Creativity. In: New York: Basic Books.

Goldman, E. F. (1934). *Band betterment: Suggestions and advice to bands, bandmasters, and band-players*: C. Fischer, inc.

Goldman, R. F. (1938). *The band's music*: Pitman publishing corporation.

Goldman, R. F. (1946). *The concert band* (Vol. 1): Rinehart & company, inc.

Graf, M. (2013). *From Beethoven To Shostakovich-The Psychology Of The Composing Process*: Read Books Ltd.

Green, B. L. (1970). *The harmonic series from Mersenne to Rameau: an historical study of circumstances leading to its recognition and application to music.* The Ohio State University,

Griffiths, P. (1978). Catalogue de Couleurs: Notes on Messiaen's Tone Colours on His 70th Birthday. *The Musical Times, 119*(1630), 1035-1037.

Grose, G. (1969). Patrick S. Gilmore's Influence on the Development of the American Concert Band. *Journal of band research, 6*(1), 11.

Hansen, R. K. (2005). *The American Wind Band: A Cultural History*: GIA Publications.

Harper, D. (2001). Online etymology dictionary.

Helmholtz, H. v., Cahan, D., & Williams, L. P. (1995). Science and culture: Popular and philosophical essays. *Nature, 378*(6555), 345-345.

Herfurth, C. P., & Stuart, H. M. (1942). *A tune a day: for clarinet*: Boston Music Company.

Hiraga, M. K. (1998). *Rough sea and the milky way:'Blending'in a Haiku text.* Paper presented at the International Workshop on Computation for Metaphors, Analogy, and Agents.

Holsberg, P. W. (2009). *Constructivism and band: New approaches for instrumental music.* (3388717 Ed.D.). Teachers College, Columbia University, Ann Arbor. ProQuest Dissertations & Theses Global database.

Holz, E. A. (1962). The schools band contest of America (1923). *Journal of Research in Music Education, 10*(1), 3-12.

Humphreys, J. T. (1989). An overview of American public school bands and orchestras before World War II. *Bulletin of the Council for Research in Music Education*, 50-60.

Isaacson, W. (2017). *Da Vinci*. New York: Simon and Schuster, Inc.

Jewanski, J. (2002). Colour and music. *The New Grove Dictionary of Music and Musicians, 7th Ed.(London)(in preparation)*.

Jones, E. E. (1998). Major developments in five decades of social psychology. In *The handbook of social psychology* (4th ed., pp. 3-57). New York, NY, USA: McGraw-Hill.

Jones, P. M. (2008). The future of school bands: Wind ensemble paradigm. *Journal of band research, 43*(2), 1.

Kaufeldt, M. (2009). *Begin with the Brain: Orchestrating the Learner-Centered Classroom. Begin with the Brain: Orchestrating the Learner-Centered Classroom. Corwin Press*. Thousand Oaks, CA: Corwin Press.

Kehl, A. G. (2014). Critical Editions and Comparative Analysis of Three Representative Wind Band Works from the French Revolution.

Klein, A. B. L., & Cornwell-Clyne, A. (1926). *Colour-Music: The Art of Light*: London: Lockwood.

Koestler, A. (1964). The act of creation.

Kursell, J. (2013). Experiments on tone color in music and acoustics: Helmholtz, Schoenberg, and Klangfarbenmelodie. *Osiris, 28*(1), 191-211.

Kurtzman, J. (2000). *The Monteverdi Vespers of 1610: Music, Context, Performance: Music, Context, Performance*: Clarendon Press.

Lalitte, P. (2011). The theories of Helmholtz in the work of Varese. *Contemporary Music Review, 30*(5), 327-342.

Lena, J. C., & Peterson, R. A. (2008). Classification as culture: Types and trajectories of music genres. *American Sociological Review, 73*(5), 697-718.

Leunig, M. (2006). *When I talk to you: a cartoonist talks to God*: Andrews McMeel Publishing.

Levine, L. W. (1990). *Highbrow/lowbrow: The emergence of cultural hierarchy in America*: Harvard University Press.

Lewis, T. P. (1991). *A source guide to the music of Percy Grainger*: Pro/Am Music Resources.

Lockspeiser, E. (1974). Music and painting: a study in comparative ideas from Turner to Schoenberg.

Macdonald, H. (2002). *Berlioz's orchestration treatise: a translation and commentary*: Cambridge University Press.

MacLean, C. (1894). On Some Causes of the Changes of Tone Colour Proceeding in the Most Modern Orchestra. *Proceedings of the Musical Association, 21*, 77-102.

Manfredo, J. (2006). The American Bandmasters Association's impact upon wind-band instrumentation. *Journal of band research, 41*(2), 74.

Márquez, A., & Villodre, I. J. (1998). Danzón no. 2. *dim, 5*(5M), 5M.

Mathews, P. (2006). *Orchestration: an anthology of writings*: Routledge.

Matsuo, B., & Basho, M. (2004). *Back Roads to Far Towns: Bashō's Travel Journal* (Vol. 5): White Pine Press.

Mausfeld, R., & Heyer, D. (2003). Colour perception: Mind and the physical world.

McLeod, E. (2002). *Lessons from Mother Earth*: Groundwood Books.

Morgan, R. S. (2006). *The Serpent and Ophicleide as Instruments of Romantic Color in Selected Works by Mendelssohn, Berlioz and Wagner.* University of North Texas

O'Bannon, R. (2016, 28 February 2018). By the numbers: Female Composers. Retrieved from https://www.bsomusic.org/stories/by-the-numbers-female-composers/

Ochoa, R. C. (1995). Stravinsky's" Symphonies of Wind Instruments": A comparison of the 1920 and 1947 versions.

Orff, C., & Keetman, G. (1995). *Orff-Schulwerk*: Celestial Harmonies.

Parker, C., & Aebersold, J. (1978). *Charlie Parker omnibook: transposed for B flat instruments* (Vol. 2): Alfred Music Publishing.

Partridge, E. (2006). *Origins: A short etymological dictionary of modern English*: Routledge.

Peterson, R. A., & Kern, R. M. (1996). Changing Highbrow Taste: From Snob to Omnivore. *American Sociological Review, 61*(5), 900-907. doi:10.2307/2096460

Plucker, J. A., Beghetto, R. A., & Dow, G. T. (2004). Why isn't creativity more important to educational psychologists? Potentials, pitfalls, and future directions in creativity research. *Educational psychologist, 39*(2), 83-96.

Popejoy, J. (2000). *From a dark millennium comes the Music of Amber.* Doctoral Dissertation, University of North Texas, 2000). UMI,

Popham, W. J. (1999). Why standardized tests don't measure educational quality. *Educational Leadership, 56*, 8-16.

Raidl, M.-H., & Lubart, T. I. (2001). An empirical study of intuition and creativity. *Imagination, Cognition and Personality, 20*(3), 217-230.

Rempe, M. (2017). Cultural Brokers in Uniform: The Global Rise of Military Musicians and Their Music. *Itinerario, 41*(2), 327-352.

Renshaw, J. (1991). Schwantner on Composition. *The Instrumentalist, 45*(10).

Riley, M. W. (1958). A Tentative Bibliography of Early Wind Instrument Tutors. *Journal of Research in Music Education, 6*(1), 3-24.

Rimsky-Korsakov, N. (1888). *Capriccio espagnol*: MP Belaieff.

Rimsky-Korsakov, N. (1923). *My musical life*: AA Knopf.

Robinson, K. (2010). Changing education paradigms. *RSA Animate, The Royal Society of Arts, London*.

Robinson, M. (2010). From the Band Room to the General Music Classroom: Why Instrumentalists Choose to Teach General Music. *Bulletin of the Council for Research in Music Education*(185), 33-48. doi:10.2307/41110364

Rodgers, S. (2009). *Form, Program, and Metaphor in the Music of Berlioz*: Cambridge University Press.

Rothenberg, A., & Greenberg, B. (1976). *The index of scientific writings on creativity: General, 1566-1974*: Archon Books.

Sabaneev, L., & Pring, S. (1929). The relation between sound and colour. *Music & Letters, 10*(3), 266-277.

Sadler-Smith, E. (2015). Wallas' four-stage model of the creative process: More than meets the eye? *Creativity Research Journal, 27*(4), 342-352.

Schilling, G., & Fink, G. W. (1837). *Encyclopädie der gesammten musikalischen Wissenschaften oder Universal-Lexicon der Tonkunst: Moritz bis Ries. 5* (Vol. 5): Köhler.

Schoenberg, A. (2006). Anton Webern: Klangfarbenmelodien. *Orchestration: An Anthology of Writings*, 159.

Schönberg, A. (1911). Harmonielehre, Universal Edition.

Sebba, R. (1991). Structural correspondence between music and color. *Color Research & Application, 16*(2), 81-88.

Sheldon, D. A., Balmages, B., Loest, T., & Sheldon, R. (2010). *Measures of success: A comprehensive musicianship band method*: FJH Music Company Incorporated.

Silverman, M. L. (1962). *Ensemble improvisation as a creative technique in the secondary instrumental music program*: School of Education, Stanford University.

Sindberg, L. K. (2009). The evolution of comprehensive musicianship through performance (CMP)—A model for teaching performing with understanding in the ensemble setting. *Contributions to Music Education*, 25-39.

Southcott, J. (2012). An" Attunement for Change": R. Murray Schafer and the Introduction of Creative Music Teaching in Australia. *Canadian Music Educator, 54*(2), 19-26.

Sparke, P. (1996). Dance Movements. Luton, Bedfordshire, England: Studio Music Company.

St Onge, J., & Eite, K. (2017). Increasing Active Participation and Engagement of Students in Circle Formations. *Networks: An Online Journal for Teacher Research, 19*(1), 7.

Stone, J. I. (1999). Biographical Studies of Nichiren. In: JSTOR.

Stravinsky, I. (1952). *Symphonies of wind instruments* (Vol. 672): Boosey & Hawkes.

Stumpf, C. (1883). *Tonpsychology*: Knuf.

Torrance, E. P. (1969). Originality of imagery in identifying creative talent in music. *Gifted Child Quarterly, 13*(1), 3-8.

Upton, C., Eaglestone, B., & Ford, N. (2005). *The Compositional Processes of Electroacoustic Composers: Contrasting Perspectives.* Paper presented at the ICMC.

Vickers, R. H., & Budd, R. (2014). *Cloudwalker*. British Columbia, Canada: Harbour Publishingq.

Vickers, R. H., & Budd, R. (2016). *Peace Dancer*. British Columbia, Canada: Harbour Publishing Co. Ltd.

Von Helmholtz, H. (1863). *Die Lehre von den Tonempfindungen als physiologische Grundlage für die Theorie der Musik*: F. Vieweg und Sohn.

Wallas, G. (1926). The art of thought.

Wertheimer, M. (1938). Gestalt theory.

White, W. C. (1924). *Military band arranging: a practical modern course for schools and private stydy*: C. Fischer, inc.

Whitehead, A. N. (1967). *Aims of education*: Simon and Schuster.

Whitehill, C. D. (1969). Sociological conditions which contributed to the growth of the school band movement in the United States. *Journal of Research in Music Education, 17*(2), 179-192.

Whitwell, D. (1979). *Band music of the French Revolution* (Vol. 5): Schneider.

Whitwell, D. (1985). *A concise history of the wind band*: Winds Northridge, California.

Appendix – Creative Portfolio

https://www.jodieblackshaw.com/phd-thesis-audio-sound-samples

The above URL will guide the reader to a webpage containing score sample audio files that accompany this thesis. All other works, including sample scores and recordings can be found at www.jodieblackshaw.com.