

**Melting the Boundaries:
The Integration of Ethnic Instruments into Western Art Music**

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Summary

This dissertation presents eight original musical compositions written for seven different ethnic instruments. The instruments are: the Native American flute, the Irish uilleann pipes, the Persian tar, the Persian santoor, the Chinese xiao, and the Irish low D and high D tin whistles. The instruments are incorporated into ensembles with western art music instruments, in both soloistic roles and as equal members in an ensemble.

The manner of incorporation reflects a cross-cultural approach to composition, one which demonstrates a reciprocal influence of cultures and genres, thereby creating new modes of expression for both ethnic and western art music musicians. Through cultural exchange, new soundscapes are created.

Respectful integration of the ethnic instruments into western art music ensembles requires an appreciation and understanding of their original contexts as a point of departure for further exploration and expansion of the repertoire for the instruments. Research was conducted on each of the instruments through the reading of authoritative texts, listening to traditional music as well as new compositions for the instruments, interviews with musicians, and personal experimentation on the instruments. A discussion of the history and tradition of each of the instruments is included.

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Compositions:

Hope

Elizabeth Hilliard, Sylvia O’Brien, sopranos; William Dowdall, western concert flute; Margaret Collins Stoop, Native American flute; Paul Roe, clarinet; Richard O’Donnell, percussion

Soft-spoken Power

Margaret Collins Stoop, Native American flute

Zephyr

Margaret Collins Stoop, xiao; Richard O’Donnell, suspended cymbal; Martin Johnson, cello

Cloud Shadows

Margaret Collins Stoop, all flutes

Glissade, first twenty bars

Lindsey Vincent, slide whistle; Margaret Collins Stoop, high D whistle

Glissade, cadenza

Margaret Collins Stoop, high D whistle

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Margaret Collins Stoop, xiao

Other material:

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Margaret Collins Stoop

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Margaret Collins Stoop

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1

Introduction

The exchange of knowledge between cultures is happening in a more meaningful way and at a more rapid pace than in earlier times. Increased familiarity with cultures outside our own results in enrichment, in whichever form it manifests. As artists, exposure to other cultures deepens and broadens our own creativity. As musicians, broadening awareness brings opportunities to incorporate new sounds into western art music.

The concept of ‘our music’ and ‘their music’ has been embedded in the late nineteenth century terms ‘music’ and ‘ethno music’, and the independence of the disciplines, musicology and ethnomusicology, has remained. The designation of two separate areas of study maintains the idea that western art music is the default frame of reference while non-western music is a variable. Whereas the distinctions ‘music’ and ‘ethno music’ have been institutionalised and survive in universities, a third categorisation, cross-cultural music, is seldom granted a separate area of study in institutional contexts, despite the fact that it is something practised by a majority of active composers and musicians.¹ For example, the ensembles, Constantinople and Silkroad, produce music with several different ethnic instruments within one ensemble. Citing their works as having a ‘musical language founded in difference’, the Silkroad collective seeks to answer the question, ‘What happens when strangers meet?’ The performance ensemble uses various instruments from along the Middle East to Southeast Asia, including the *pipa* (a Chinese

¹ Jin-Ah Kim, ‘Cross-Cultural Music Making: Concepts, Conditions and Perspectives’, *International Review of the Aesthetics and Sociology of Music*, 48(1), (2017), pp. 23-6.

lute), the *duduk* (an Armenian double reed), and the *shakuhachi* (a Japanese bamboo transverse flute). The Dublin-based bands, Jiggy and Slow Moving Clouds, combine non-western instruments with contemporary Irish traditional instruments. Slow Moving Clouds incorporates stroh fiddle (an amplified violin with horns), *sansula* (a thumb piano fixed to a frame drum), and marxophone (a fretless dulcimer).² Jiggy performances have included the *bodhrán* (an Irish frame drum), the *uilleann* pipes (Irish babpipes), the Irish flute and fiddle, and a variety of drums: *mridangam*, *dholak*, *konnakol*, *kanjira*.^{3,4}

The above mentioned music groups may be categorised as ‘World’ music. Composer Luigi Irlandini notes that ‘World Music, understood as the global pop music genre that developed in Western countries during the late twentieth-century, is the realm where a scholar would most immediately look for new inter-cultural musical creations’.⁵ There are a great many western art music works written for ethnic instruments, though fewer than in World music. Contemporary art music composers who have written such works are Helmut Lachenmann (for *shō*, a Japanese reed instrument), Takemitsu Tōru (for *shō*), John Cage (for *shō*), Kevin Volans (for *uilleann* pipes), Unsuk Chin (for *sheng*, a Chinese mouth organ), Luigi Irlandini (for *shakuhachi*), and Christopher Keyes (for a variety of Chinese instruments, including the *xiao*, an end-blown flute; the *qin*, a seven-string zither; and the pipa).

In an article about Chinese music throughout the world, Frederick Lau writes ‘There

² Ultan O’Brien.. ‘Re: PhD research question - Slow Moving Clouds.’ Message to the author. 10 December 2020.

³ Éamonn Galldubh, ‘Re: PhD research question re: Jiggy at Whelan’s’. Message to the author. 18 December 2020.

⁴ Eoghan Ó Ceannabháin, ‘Re: PhD research question - Jiggy’. Message to the author. 12 December 2020.

⁵ Luigi Antonio Irlandini, ‘Non-Western musical instruments and contemporary composition’, *ISSUU Digital Publishing*, (2020), p. 3. https://issuu.com/gaudeamusmuziekweek/docs/non-european_musical_instruments_and_contemporary_Web. Accessed 30 November 2020.

is no automatic inherent connection between one's ethnicity and one's music'.- This may be true, however, acknowledgement of historical and contemporary dominance of some cultures over others leads to the understanding that conditions for those who create cross-cultural music are asymmetrical. In a 2005 article critiquing recent works for the shō and the sheng, Christian Utz writes, '[T]he risk of falling into the trap of post-colonial hierarchies and uneven power relations is ever-present in most encounters between Western composers and Asian musicians, since the composer-performer relationship has not traditionally been a balanced dialogue.' Utz, goes on to say, '*However*, the solution to this risk *cannot* be the avoidance of intercultural musical collaborations.' (italics mine)⁶

For western art music composers and musicians in Europe and the United States, including myself, turning to cross-cultural music is a personal decision. For those outside those cultural regions, it is a social necessity, in order to be able to move in the field of the institutionally established music scene. This is particularly true in areas especially receptive of western art music, such as Asia and southeast Asia.⁷ Therefore, the inclusion of instruments from cultures outside our own must be done not only with respect, but with sensitivity. Rather than an appropriation of another tradition, a cultural exchange is to be sought.

This cross-cultural approach is reflected in my choice to compose for seven different ethnic musical instruments. As a PhD candidate in music composition, I have written eight works which incorporate the instruments and the techniques specific to them into

⁶ Christian Utz, 'Beyond Cultural Representation: Recent Works for the Asian Mouth Organs Shō and Sheng by Western Composers', *The World of Music*, 47(3), p. 132.

⁷ Jin-Ah Kim, 'Cross-Cultural Music Making: Concepts, Conditions and Perspectives', *International Review of the Aesthetics and Sociology of Music*, 48(1), (2017), p. 26.

ensembles with western orchestral instruments. The instruments are the Native American flute, the uilleann pipes, the *santoor* (a Persian dulcimer), the *tar* (a Persian lute), the *xiao* (a Chinese vertical flute), and the high and low D tin whistles. The inclusion of ethnic instruments in my compositions is a striving toward integration, in which the boundaries between the distinct genres are softened or dissolved. Both genres, western art music and the traditional, are augmented by expanding the scope of expression of the instruments beyond the expected.

It with understanding of and deep respect for the history and context of the ethnic instruments that new works for them were composed. Research on the associated genres afforded a point of departure from which to expand the repertoire of the instruments.

1.1

Research Overview

The scope of research presented in this dissertation is broad, as it reflects investigation of the history, traditions, and capabilities of each of the ethnic instruments included in my compositions, appreciating how its original context informs inclusion in and influence on a new setting. Expansion of the repertoire of the instruments beyond that which is idiomatic is sought, and the discovery of what is idiomatic to the instruments reveals that which is non-idiomatic.

My investigative approach to research was both academic and experiential. The various methods included visiting musical instrument museums, listening to many compositions which incorporate ethnic instruments, ranging from Bartók's *Romanian Dances* to Jeff Wayne's *Horsell and the Common Heat Ray*, and studying the various manners in which ethnic instruments take part in ensembles of western art music, what accommodations were made, and whether the instrumentalists perform within or beyond idiom.

A visit to the Musical Instrument Museum in Phoenix, Arizona was edifying and informative, and then personal experience and exposure led to the selection of which instruments to include in my compositions.

While listening to various compositions, I paid particular attention to the manner in which the instrument is incorporated into the ensemble and with what degree of integration. For example, the folk musicians performing Bartók's *Romanian Dances*, as performed by

the Danubia Orchestra, appear as guest stars, performing unaltered folk tunes supported by a western orchestra.⁸ In her composition, *By and By*, Caroline Shaw combines a straightforward folk singing technique with a western art music string quartet, juxtaposing rather than integrating two genres.⁹ I observed that the same is true of *Grás agus Bás* by Donnacha Dennehy, in which a sean-nós singer sings within idiom supported by contemporary western art music.¹⁰

In addition, I attended numerous live performances of ethnic instruments, whether they were performed as part of an ensemble of western orchestral instruments or not. For example, I was invited to private rehearsals, participated in traditional music sessions in Dublin and New York, and went to premiere performances at the National Concert Hall and Whelan's in Dublin. I played, experimented, and performed on five of the instruments, in order to explore range, timbre, tuning and capabilities for extended technique.

Composer Luigi Irlandini writes that there are two options for the composer who writes for ethnic instruments: either to work closely with an expert performer of that instrument, or to become involved with the instrument oneself. This involvement can occur in two non-mutually exclusive ways. The composer can become a performer of the instrument's musical tradition or make original music with it.¹¹

⁸ Béla Bartók, *Romanian Folk Dances* (1915). Muzsikás with the Danubia Orchestra. Video recording. Published 1 July 2010. Web. <https://www.dailymotion.com/video/x2ph7wj>. Accessed 5 September, 2017.

⁹ Caroline Shaw, *By and By* (2014). Music on Main, Calder Quartet. Video recording. Published 15 August 2014. Web. <https://www.youtube.com/watch?v=EyDvnUYB0sk>. Accessed 8 September, 2017.

¹⁰ Donnacha Dennehy, *Grá agus Bás* (2007). Crash Ensemble. Video recording. Published 16 November 2010. Web. <https://www.youtube.com/watch?v=lZjvvtCQUoo>. Accessed 10 October, 2017.

¹¹ Luigi Antonio Irlandini, 'Non-Western musical instruments and contemporary composition', *ISSUU Digital Publishing*, (2020), pp. 5-6. https://issuu.com/gaudeamusmuziekweek/docs/non-european_musical_instruments_and_contemporary_ Web. Accessed 30 November 2020.

In preparing to write the compositions in this portfolio, I took both approaches. I do not play the santoor, the tar, or the uilleann pipes. I consulted with Shahab and Shayan Coohe, master players of the santoor and tar respectively, and with Éamonn Galldubh, expert uilleann piper. The four other instruments for which I have written are all types of flutes. As an experienced western concert flutist, part of my research was to play the flutes myself, often performing for audiences around Dublin city centre. I played music from the traditional Native American, Chinese, and Irish repertoires, as well as music from many other genres. Experiments included switching musical genres, for instance by playing Irish or Hungarian tunes on the xiao, and Chinese tunes on the whistles. I also experimented in transferring extended techniques of the western concert flute to the ethnic flutes. The experiments had varying degrees of success, and it proved instructive to discover what worked and what didn't.

1.2

Compositional Considerations

Prior to composing the works in this portfolio, two questions arose: When writing for ethnic instruments, are we extracting only the sound, or the culture as well? Is the instrument fundamentally changed if we divest it of its original context? The first question may in fact be rhetorical, as each composition demands an individual approach, and the level of integration and exchange will vary. Some works incorporate direct allusions to the traditional genre, while others have as a primary consideration the expansion of the instrument beyond idiom. This brings us to the second question, to which Irlandini has a response: the tendency to take ethnic instruments out of their original context and assimilate them into new styles of music gives the instruments what he calls a 're-significance'.¹² Compositions for ethnic instruments which do not make direct reference to or incorporate idioms from the original context nonetheless celebrate the instruments through examination, appreciation, and exploration of their unique and defining features, with the dual goal of introducing the instrument to the milieu of western art music and expanding the repertoire of the instrument. Instruments which are specifically associated with sacred rituals, however, for example the shofar or the powwow drums, are not included in the compositions in this portfolio. The extraction of such instruments from their original context would dilute or obliterate a meaning too integral to the identity of the instrument.

¹² Luigi Antonio Irlandini, 'Non-Western musical instruments and contemporary composition', *ISSUU Digital Publishing*, (2020), p. 3. https://issuu.com/gaudeamusmuziekweek/docs/non-european_musical_instruments_and_contemporary_Web. Accessed 30 November 2020.

Three considerations arose as well, the latter two falling under the broader scope of the first: the need to understand and appreciate the original context of the instrument, the fact that many ethnic instruments are not tuned to equal temperament, and the understanding that many ethnic musicians learn and perform music in manners different to western art musicians.

Appreciation and understanding of the original context of the instrument enables the composer to make informed compositional choices, whether or not direct allusion to the traditional genre is made. An understanding of the harmonic language and idiomatic embellishments brings knowledge of the mechanics and capabilities of the instrument. If expansion of the instrument through non-idiomatic writing is sought, appreciation of the original context serves as a respectful point of departure for exploration. Irlandini writes that if a composer wishes to incorporate an ethnic instrument in a culturally responsible way, the composer must honour the performance tradition of that instrument. He explains:

It means it will be studied, known, assimilated. Acculturation. Therefore, it's not only important that the composer has the conditions to acquire first-hand experience with a chosen non-Western instrument, but it is also fundamental for the development of a composition based on instrumental research. The 'collateral advantage' of this acquisition and assimilation is that the acculturated musician will be giving continuation to and expanding the musical culture of the instrument in a conscious and new way, made possible by becoming an active member of that instrument's cultural history.¹³

The notion that western art music composers who incorporate ethnic instruments into their compositions might become an 'active member of that instrument's cultural history'

¹³ Luigi Antonio Irlandini, 'Non-Western musical instruments and contemporary composition', *ISSUU Digital Publishing*, (2020), pp. 37-8. https://issuu.com/gaudeamusmuziekweek/docs/non-european_musical_instruments_and_contemporary_Web. Accessed 30 November 2020.

lends a certain validity and honour to the endeavour.

Composer and musicologist Christian Utz cites Lachenmann's work, *Das Mädchen mit dem Schwefelhölzchen*, as an example of extending 'the musical culture of an instrument in a conscious and new way'. The *shō* (a Japanese mouth-organ) features prominently in the penultimate scene of the opera. Utz posits that Lachenmann studied the chords of *tōgaku* (Japanese court music) and extended the principle of their birth and decay, 'which intrinsically related to Lachenmann's basic concept of the "Kadenzklang" (cadence sound)'.¹⁴

A composition by Christopher Keyes, *Li Jiang Etude No. 3*, is another work which fuses traditional principles with the composer's own aesthetic practices.¹⁵ The musical materials in the composition for xiao, tape, and real-time digital signal processing (DSP) 'are all clearly derived from and allude to the Chinese musical tradition'.¹⁶ *Li Jiang Etude No. 3* will be further discussed later in this chapter, as well as in Chapter 5.1, a chapter about the xiao.

None of the seven instruments incorporated into my compositions are typically tuned to equal temperament. This presented the compositional choice of whether to require the instruments to play in equal temperament or to have them play in their natural tuning, and the choice was made anew before beginning each composition. Two works for Native American flute, *Hope* and *Soft-spoken Power*, ask the flutist to perform in equal

¹⁴ Christian Utz, 'Beyond Cultural Representation: Recent Works for the Asian Mouth Organs Shō and Sheng by Western Composers', *The World of Music*, 47(3), (2005), pp. 114-5.

¹⁵ Christopher J. Keyes, *Li Jiang Etude No. 3* (2003). Capstone, 2005. CD. Recording.

¹⁶ Christopher J. Keyes, 'Recent technology and the hybridisation of Western and Chinese musics', *Organised Sound*, 10(1), (2005) p. 55.

temperament. This is accomplished through embouchure, breath support, and alternate fingerings, and thus is a requirement that not all Native American flutists will be able to fulfil. Recognising this limitation, the choice to compose for an equal temperament ensemble was made nonetheless, because it was appropriate to both compositions. My composition for five flutes, *Cloud Shadows*, explicitly asks the flutists to perform in the tuning system typical of their instrument. A primary focus of the work is timbre, and the intonation of the flutes is encompassed in this focus. Other compositions in the portfolio allow the aural space for the natural tuning to be heard within the context of an equal tempered ensemble.

Many ethnic instruments are learned through oral tradition, and works are performed from memory, having been passed from teacher to student. Renowned uilleann piper, Liam O'Flynn, described his relationship with his teacher,

Leo Rowsome:

It was like being an apprentice to a master. Almost all the uilleann pipers I know refer to an older piper. I would say it was impossible to learn on your own. All my music I learned by ear - dots never came into it - and now once the piece is living inside me I can begin to express myself through it.

Some traditional genres, such as Native American and Chinese folk, have their own system of notation. Collaboration with ethnic musicians demands appreciation of these differences, and this may affect compositional choices. The composition might be notated in the genre's own notation system, such as works for Native American flute by James DeMars, or it may be taught orally and memorised by the performer. A prompter may be used to cue the musician, as when Dennehy's *Grás agus Bás* was performed by the Crash Ensemble.- The

material of World music groups is typically either improvised, as most of Silkroad music is, or memorized prior to performance, as with the band Jiggy.^{17, 18} Irlandini notes:

While the creative practices in World Music rarely involve musical writing and/or notation, but rather the multi-cultural interaction between musicians, the New Music [western art music] composer's creative practices has emphasized the employment of writing (*écriture*); this sets up a predicament – absent in World Music – about how to deal with non-Western instruments within the realm of New Music.¹⁹

Working with Persian musicians, Shahab and Shayan Cooshe, and with uilleann piper, Éamonn Galldubh, did not present a notation or communication challenge. All three are skilled readers of music, and it was understood from the start of the collaborations that they would be reading western European notation. However, if new works for ethnic instruments are to be notated in western European notation, the fact remains that awareness of possible differences in manner of learning and performing music benefits and enhances collaboration.

Many ethnic instruments do not have the same carrying power of volume as western orchestral instruments. Jean Durning writes that orchestras of Asian instruments developed as a result of authorities desiring to match the power and size of western ensembles, but

¹⁷ Adam Gurczak, Artistic Programs Director, Silkroad Ensemble. 'Re: PhD research question.' Message to the author. 3 September 2020.

¹⁸ Éamonn Galldubh, 'Re: PhD research question re: Jiggy at Whelan's'. Message to the author. 18 December 2020.

¹⁹ Luigi Antonio Irlandini, 'Non-Western musical instruments and contemporary composition', *ISSUU Digital Publishing*, (2020), p. 3. https://issuu.com/gaudeamusmuziekweek/docs/non-european_musical_instruments_and_contemporary_Web. Accessed 30 November 2020.

smaller ensembles are more suited to the instruments.²⁰ Care was taken in choosing the instrumentation and size of the ensembles in my compositions for ethnic instruments, as a primary concern is to allow the distinct timbre of the ethnic instruments to be heard clearly. In my compositions the ethnic instruments are not to be overpowered in volume by the rest of the ensemble, nor is the timbre to be altered or subsumed in a wash of other colours similar to its own. Writing for the uilleann pipes, for example, a clarinet was chosen rather than an oboe, because the timbre of the oboe is close to that of the uilleann pipe chanter.

Today's technology allows ethnic instruments to be amplified, transposed, and to have their timbre altered. Ethnic instruments are sometimes electronically amplified when performing with western orchestral instruments in order to meet the dynamics of the ensemble. As Christopher Keyes writes, 'The common problem of balancing Western instruments, made to project in large hall, with many of the relatively intimate Chinese instruments is now routinely solved with amplification and the continued use of steel strings.'²¹ Shayan Coohé amplifies his tar when performing with Dublin-based bands Tulca and Nava, and the uilleann pipes were amplified when David Power performed the world premiere of Kevin Volans's concerto for uilleann pipes in the National Concert Hall in Dublin.

In a discussion about whether African instruments should be amplified, Odyke Nwezi writes, 'African indigenous musical instruments originally built for live performances have their own natural acoustic 'amplification' to suit the environment ... In

²⁰ Jean During, 'Power, Authority and Music in the Cultures of Inner Asia', *Ethnomusicology Forum*, 14(2), (2005), p. 146.

²¹ Christopher J. Keyes, 'Recent technology and the hybridisation of Western and Chinese musics', *Organised Sound*, 10(1), (2005) p. 53.

other words, indigenous music instruments did not need electronic amplification because they were used within a parameter that was covered by the acoustic amplification of the instruments'. The World Music bands Jiggy and Slow Moving Clouds, in which the majority of instruments are non-western, routinely electronically amplify the instruments.^{22, 23}

Technology is used to expand the register and timbre, as well as the volume, in the aforementioned *Li Jiang Etude No. 3* by Christopher Keyes. In a series of *Li Jiang Etudes*, Keyes digitally processes recorded samples of Chinese instruments to change pitch and timbre, calling the product of such processing 'audio paint'. He maintains that many Chinese musicians 'find the new Western emphasis on timbre complements traditional Chinese music and thus forms an easy bridge to the hybridisation of the two.'²⁴

My compositions were written with the intention that the instruments would not be amplified, so that no distortion to the unique timbre will occur. The compositions are scored for small ensembles, suitable for more intimate settings. However, the premiere performance of *Zephyr*, my composition for xiao, suspended cymbal, and cello, was successfully amplified by the skilled sound crew in The Studio of the National Concert Hall in Dublin. I ultimately defer to the performers to make the decision about whether to amplify the instruments, as circumstances and venues vary greatly.

²² Éamonn Galldubh, 'Re: PhD research question re: Jiggy at Whelan's'. Message to the author. 18 December 2020.

²³ Ultan O'Brien.. 'Re: PhD research question - Slow Moving Clouds.' Message to the author. 10 December 2020.

²⁴ Christopher J. Keyes, 'Recent technology and the hybridisation of Western and Chinese musics', *Organised Sound*, 10(1), (2005) p. 53.

1.3 List of Compositions

Hope November 2017
6'15"
for two sopranos, Native American flute, western concert flute, clarinet, and percussion, setting Emily Dickinson's 'Hope is the Thing with Feathers'

Soft-spoken Power February 2018
4'00"
for solo Native American flute

Moving Toward Home October 2018
6'00"
for uilleann pipes, clarinet, bassoon, and cello

Under a Cobalt Sky January 2019
8'40"
for clarinet, violin, santoor, and tar

Zephyr March 2019
6'30"
for xiao, suspended cymbal, and cello

Cloud Shadows September 2019
7'25"
for high D tin whistle, Native American flute, xiao, western concert flute, and low D tin whistle

Glissade February 2020
6'15"
for high D whistle, slide whistle, alto flute, bass clarinet, and snare drum

total duration for above compositions: 45'05"

Bird Suite

June 2020

total duration 29' 35"

for xiao, string quartet, and two percussion players

1. **'Listen for the Birds'** 5'45"

Percussion I: tam-tam, snare drum, triangle

Percussion II: triangle, rain stick, two wood blocks

2. **'Woodpecker's Song'** 3'50"

Percussion I: bell tree

Percussion II: tambourine

3. **'Loons on the Lake'** 6'30"

(for solo xiao, strings and percussion tacet)

4. **'Dancing Owl'** 6'05"

Percussion I: crotale on snare drum, snare drum, suspended cymbal

Percussion II: three wood blocks, shaker

5. **'Shore Birds'** 7'25"

Percussion I: ocean drum (40 cm), large thunder tube

Percussion II: bass drum and suspended cymbal

2

Introduction to Commentary on *Hope and Soft-spoken Power*

After decades of systemic suppression of Native American culture, Native American flutes have experienced a sort of renaissance in the second half of the twentieth-century, and have been commercially manufactured and widely sold across the United States since at least the 1980s.²⁵ In the mid 1990s, my brother owned a store which sold ethnic musical instruments, and I was exposed to the wide variety in his inventory, including the Native American flute. In the early 1990s, flute circles began to emerge in response to the growing interest in and desire to learn about the instrument. These are casual yet essential groups through which members share knowledge about playing the Native American flute and perform for and with each other. The first official flute circle in the United States is the Oregon Flute Circle, founded in 1993.²⁶ As an American (though not of Native descent), I was eager to learn more about an instrument that represented to me a cultural tie to the pre-colonial history of my country.

Before composing the three works for Native American flute in this portfolio, I immersed myself in study of the instrument as well as in Native American music in general. Authoritative texts that were beneficial in research include those by R. Carlos Nakai, James DeMars, John Bierhorst, Tim R. Crawford, Paula Conlon, Daniel R. Wildcat, Nicholas C. Peroff, Judy Epstein Buss, and Mary Jane Jones.

Initial areas of investigation into the Native American flute focused on the following: the differences between the Native American flute and the western concert flute,

²⁵ A leading manufacture of the flutes, High Spirits Flutes, for example, has been in business since 1990.

²⁶ Mary Jane Jones, 'Revival and Community: The history and practices of a Native American flute circle', M.A. thesis (Kent State University, 2010), p. 18.

the distinguishing characteristics of Native American music and their integration into an ensemble with western orchestral instruments, and expansion of the capabilities of the Native American flute beyond what is typically expected of the instrument.

I relied heavily upon my extensive knowledge of playing the western concert flute. As a flutist, I am well familiar with breath support and how it affects tuning and tone. Various methods of articulation which are common in playing the western concert flute, such as staccato, legato, martellato, and fluttertongue, are easily transferred to performance on the Native American flute. I immediately grasped the basic fingering concepts: the pitch lowers as more finger holes are closed, and some pitches can be overblown to produce an octave or higher overtone harmonic. However, the fingering and cross-fingering on Native American flutes of almost any size differ greatly from that of a western concert flute. For example, the fingering used to play an F natural on the western concert flute is nearly identical to the fingering used to play a B natural on a Native American flute with an F sharp fundamental. Confusing the two results in an error that is a tritone away from the intended note!

An important aspect that emerged from my research on Native American music is that the concept of Native American identity *in general* is complex. Furthermore, in order to more fully understand the Native American flute, its development, and its music, it is necessary to consider this complex issue. For this reason, Native American identity will be more thoroughly discussed in this dissertation than the cultural identities associated with the other ethnic instruments in the composition portfolio. The discussion of identity follows in this chapter, and the Native American flute and music will be discussed in Chapter 2.1.

First, I will address the nomenclature, the preferred terms for self-identification. Writers Nicholas Peroff and Daniel Wildcat explain their word choice in the article ‘Who is an American Indian?’: ‘[W]e use the term Indian to focus attention on the issue of identity without tackling the matter of what specific designation, if any, is justifiable in referring to the Indigenous peoples of the Americas.’²⁷ On the other hand, a Wahpetunwan Dakota writer and scholar, Waziyatawin Angela Wilson, states that she prefers to use the term ‘Indigenous’ over ‘American Indian’, ‘Indian’, or ‘Native American’, because of ‘the implicit notion of coming from the land and being of the land.’ She further explains, ‘This is not only an accurate description of our people’s origins, it is also a political declaration about our claims to the land.’²⁸ Composers R. Carlos Nakai and James DeMars use the term ‘Native American’ throughout their writings. Their book, *The Art of the Native American Flute*, was my introduction to learning how to play the flute, and, having adopted the use of their preferred term, I use ‘Native American’ throughout this dissertation.²⁹

A second topic related to Native American identity is the centuries-long, systemic suppression of the Native Americans by the U.S. government, and the many repercussions of that suppression. Untold artifacts, traditions, rituals, and stories were lost, in large part do to this suppression, including a body of knowledge about Native American flutes and melodies.

Native American activist and scholar, Vine Deloria, discusses the historical development and experiences of Native American peoples in his book, *Red Earth, White*

²⁷ Nicholas C. Peroff and Daniel R. Wildcat. ‘Who is an American Indian?’, *The Social Science Journal*, 39, (2002), p. 349.

²⁸ Mary Jane Jones, ‘Revival and Community: The history and practices of a Native American flute circle’, M.A. thesis (Kent State University, 2010), p. 31.

²⁹ R. Carlos Nakai and James DeMars, *The Art of the Native American Flute* (Phoenix: Canyon Records Productions, 1996).

Lies: Native Americans and the myth of scientific fact. He writes of the obstacles that Native Americans face when they confront misconceptions about their culture:

For American Indians, the struggle of this century has been to emerge from the heavy burden of anthropological definitions that have made Indian communities at times mere laboratories for political and social experiments. Indian advocates are often very bitterly attacked by scholars when they question these experiments and articulate their own ideas which clash with accepted orthodox and comfortable interpretations about tribal people developed by academics.³⁰

An additional and unfortunate reason for the loss of some aspects of Native American culture is that Native Americans may have chosen to ignore their heritage and forget older traditions as a means to defend themselves against negative and stereotyped views of them held by white Americans of the nineteenth and early twentieth centuries.³¹

The complexity of Native American identity is reflected in a distinction between ‘spatial Indianness’ and ‘aspatial Indianness’, as defined by Deloria.³² ‘Spatial Indianness’ is an identity which is formed within the context of spatially distinct place, and it correlates with a recognition of identity given at birth into a tribe. From this viewpoint, the tribe as a whole is seen as ‘a process of interaction between things within a specific region of space’, and is something that ‘continually evolves and changes with the external environment.’³³ The cultural identity is tied to a geographic location in the sense that over decades and centuries the significance of the practices and rituals that have taken place at that site is

³⁰ Vine Deloria, Jr., *Red Earth, White Lies: Native Americans and the myth of scientific fact* (Golden, Colorado: Fulcrum Publishing, 1997), pp. 114-5.

³¹ Mary Jane Jones, ‘Revival and Community: The history and practices of a Native American flute circle’, M.A. thesis (Kent State University, 2010), p. 12.

³² Nicholas C. Peroff and Daniel R. Wildcat. ‘Who is an American Indian?’, *The Social Science Journal*, 39, (2002), p. 349.

³³ *Ibid*, p. 355.

embedded into the trees, mountains, rocks, rivers, buildings and roads. Wilson's preference for the term 'Indigenous', as cited above, reflects a spatial identity.

'Aspatial Indianness' is not formed in the context of a specific place, but the identity 'is more a product of the way members of the dominant society perceive Indians, than it is an expression of the way Indians do, in fact, live in American society.'³⁴ American population at large is more familiar with aspatial identity than with spatial.³⁵

The distinction between spatial and aspatial Indianness does not define two mutually exclusive subsets of a culture; rather people who identify as Native Americans most often fall somewhere between the two. Peroff and Wildcat write that 'there is no clear dividing line between Indian identities, and the defining features of Indianness shift and change with time.'³⁶

The concept of aspatial Indianness does not seem to be mutually exclusive with a third term, 'pan-Indianism'. 'Pan-Indianism' was defined in 1955 by James H. Howard it is still in fairly wide use today. The term seems to be more of a racial identification rather than the cultural identification of spatial and aspatial Indianness. Pan-Indianism refers to a blending together or blurring of distinguishing qualities associated with specific tribes, and describes a process by which, according to Howard, 'certain American Indian groups are losing their tribal distinctiveness and in its place are developing a generalized, nontribal "Indian" culture.'³⁷ In her discussion on Native American flute circles, Mary Jane Jones speaks of members of a flute circle who identify as 'pan-Indian'. 'Those with a pan-Indian

³⁴ Nicholas C. Peroff and Daniel R. Wildcat. 'Who is an American Indian?', *The Social Science Journal*, 39, (2002), p. 355.

³⁵ Ibid.

³⁶ Ibid, p. 350.

³⁷ James H. Howard, 'Pan-Indianism in Native American Music and Dance', *Ethnomusicology* 27 (1), (1983), p. 71.

identity,' writes Jones, 'view themselves as racially different from other Americans of European, Asian, or African ancestry and may consequently feel it is impossible for them to assimilate fully.'³⁸ Some who identify as pan-Indian view the borrowing from other tribes 'merely as the assumption or resumption of something "Indian" as opposed to something "White."' ³⁹ Rather than a cultural distinction within Native American populations, pan-Indianism reflects a distinction between Native Americans and non-Native Americans.

Pan-Indianism, or cultural practices reflecting general Indian ancestry without regard to specific tribal origins, is a major factor influencing Native American music today.⁴⁰ Today's Native American flute reflects an amalgamation of traditions from tribes throughout North America, and is a prime example of pan-Indianism.⁴¹ Renowned Native American flutist, R. Carlos Nakai, a member of the Navajo Nation, studied and appropriated the flute styles and techniques of the Plains tribes, since the Navajo did not have a history of playing the flute.⁴² In an interview with Daniel Buckley, Nakai describes his artistic philosophy:

What I do is primarily not related to a predisposition to reiterate and romanticize what we were at one time but to look toward the future and to do things from my perspective, based on the influences that surround me. So as a cultural person, and one fairly well involved in the philosophies of the Utes, Navajos and the Zunis, it's 'never look back' but always look toward tomorrow and see what the possibilities could be. I

³⁸ Mary Jane Jones, 'Revival and Community: The history and practices of a Native American flute circle', M.A. thesis (Kent State University, 2010), p. 33.

³⁹ James H. Howard, 'Pan-Indianism in Native American Music and Dance', *Ethnomusicology* 27 (1), (1983), p. 72.

⁴⁰ Mary Jane Jones, 'Revival and Community: The history and practices of a Native American flute circle', M.A. thesis (Kent State University, 2010), p. 14.

⁴¹ *Ibid.*, p. 4.

⁴² Paula Conlon, 'The Native American Flute: Convergence and Collaboration as Exemplified by R. Carlos Nakai', *The World of Music*, 44, (2002), p. 66.

operate primarily from there.⁴³

As noted above, Chapter 2.1 will discuss the Native American flute and music; two of my compositions will be discussed in Chapters 2.2 and 2.3. An understanding of the original context of the Native American flute informed the compositional choices in three compositions for Native American flute. In *Hope*, for Native American flute, two sopranos, western concert flute, clarinet, and percussion, the Native American flute is an equal participant in an ensemble in which there is reciprocal exchange of influence. *Soft-spoken Power* is for solo Native American flute, and incorporates idioms of the genre as well as introduces new expression for the instrument through harmonic language, articulation, melodic line, and rhythm.

Cloud Shadows is a work for five flutes, including the Native American flute, and is discussed in Chapter 7.

⁴³ Daniel Buckley, Daniel. 2013. 'R. Carlos Nakai Speaks His Mind', *Native Peoples* 13 (3), p. 25.

2.1 The Native American Flute

Across Native American cultures, music serves a purpose. An essential part of native life, it was historically used for many things, for instance: to control weather, to lull a child to sleep, for good hunting, or to spur on a war party.⁴⁴ Frances Densmore, an early twentieth century anthropologist who collected more than 2000 Native American songs, identified more than 200 of those songs as used for healing.⁴⁵ Vine Deloria recounts a story told by Luther Standing Bear in which a Sioux medicine man halts a thunderstorm with his powers in order to continue with a dance and feast.⁴⁶

Flute music, in particular, was considered hypnotic and used for meditative purposes is most often played solo or accompanied by percussion. It was played exclusively by men, and flute songs were often used to woo lovers.⁴⁷ The man who played the flute melody shown in Figure 1 said that, when women hear the song, they cry with loneliness and then allow the flutist to approach them.⁴⁸

⁴⁴ John Bierhorst, *A Cry from the Earth: Music of the North American Indians* (New York: Four Winds Press, 1979), p. 3.

⁴⁵ Joan M. Jensen and Michelle Wick Patterson (eds), 2015. *Travels with Frances Densmore: Her Life, Work, and Legacy in Native American Studies* (Lincoln, Nebraska: ProQuest Ebook Central, 2015), p. 505.

⁴⁶ Vine Deloria, Jr., *Red Earth, White Lies: Native Americans and the myth of scientific fact* (Golden, Colorado: Fulcrum Publishing, 1997), pp. 97-8.

⁴⁷ Bryan Burton, 'Native American flute', in *Oxford Music Online*, (2015). Web. <https://www.oxfordmusiconline.com/grovemusic/view/10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-1002251903>. Accessed 10 October 2017.

⁴⁸ John Bierhorst, *A Cry from the Earth: Music of the North American Indians* (New York: Four Winds Press, 1979), pp. 81-2.

Fig. 1 Lonesome Flute

A good deal of knowledge about the Native American flute and flute melodies was lost as a result of the suppression of the culture. Many contemporary Native Americans do not know if their ancestors played the flute, and they rarely, if ever, heard the flute being played.⁴⁹

After the folk music revival of the 1960s and 70s, interest in Native American flute music became more widespread.⁵⁰ Recordings by performers such as Doc Tate Nevaquaya and R. Carlos Nakai aided in the reintroduction of the flute to mainstream society. Lost tribal flute traditions have given way to new Pan-Indian flute practices.⁵¹

The construction of and performance on Native American flutes reflects a combination of traditions from regions across North America. The typical modern Native American flute most closely resembles that of the Plains Indians.⁵² Ethnological feedback, as defined by Hazel Hertzberg in her book, *The Search for American Indian Identity*, is a situation where those with lost traditions consult the work of anthropologists to learn about

⁴⁹ Mary Jane Jones, 'Revival and Community: The history and practices of a Native American flute circle', M.A. thesis (Kent State University, 2010), p. 15.

⁵⁰ R. Carlos Nakai and James DeMars, *The Art of the Native American Flute* (Phoenix: Canyon Records Productions, 1996), p. 2.

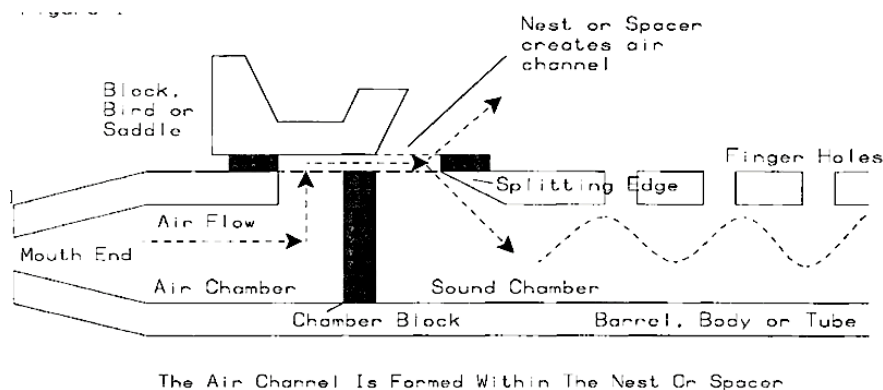
⁵¹ Mary Jane Jones, 'Revival and Community: The history and practices of a Native American flute circle', M.A. thesis (Kent State University, 2010), p. 16.

⁵² *Ibid.*

their own cultures.⁵³ Jones points out that the re-emergence of the Native American flute in the twentieth-century is a good example of ethnological feedback.⁵⁴

Many different kinds of wood are used in the construction of modern Native American flutes, including cedar, juniper, ironwood and box-elder. Despite the fact that much of the information and lore about songs played on flutes were lost to the various tribes, it is known that Native American flutes of the past as well as the present are generally end-blown flutes that are held vertically, and a unique and defining characteristic is a vertical block.^{55,56} Adjustment of the block has an effect on tone quality and tuning. A diagram of the cross section of a Native American flute is shown in Figure 2.

Fig. 2 Typical construction of a Native American flute, showing the vertical block⁵⁷



⁵³ Hazel W. Hertzberg, *The Search for an American Indian Identity* (Syracuse, NY: Syracuse University Press, 1971), p. 298.

⁵⁴ Mary Jane Jones, 'Revival and Community: The history and practices of a Native American flute circle', M.A. thesis (Kent State University, 2010), p. 15.

⁵⁵ Paula Conlon, 'The Native American Flute: Convergence and Collaboration as Exemplified by R. Carlos Nakai', *The World of Music*, 44, (2002), p. 64.

⁵⁶ Judy Epstein Buss, 'The Flute and Flute Music of the North American Indians', M.Mus. thesis (University of Illinois at Urbana-Champaign), (1977) p. 20.

⁵⁷ Tim R. Crawford and Kathleen Joyce-Grendahl. 2008. *Flute Magic: an Introduction to Native American Flute* (Pacific, Missouri: Mel Bay Productions) p. 8.

Today's Native American flutes generally have five or six holes. Pitch ranges and tone quality are affected by the length of the flute and the material used. A cedar flute with an F sharp fundamental, made by High Spirits Flutes in Patagonia, Arizona, was used during the composition process, as well as in performances of the compositions, and is shown in Figure 3.

Fig. 3 Cedar Native American flute with F sharp fundamental ⁵⁸



The size of the flutes and the distance between finger holes vary greatly, and the construction of the flutes is not systematised. Renowned Native American flutist, R. Carlos Nakai, describes the traditional method of construction as a process which is tailored to the individual flutist, resulting in highly individualised flutes:

The placement of the sound-producing apparatus as well as the finger hole distances are arbitrarily determined. Measurements for distances are derived from the maker's own body. For instance, combinations of arm length with or without palm and/or finger

⁵⁸ Photo by the author.

length, the width or length of the hand, thumb width, digit width lengths of any other fingers of the hand contribute to the template of each flute maker, thereby making each flute a personally crafted and arbitrarily keyed instrument.⁵⁹

The differences from one flute to another continue today, even in flutes which are commercially produced. The five lowest tones on any flute make up a pentatonic scale; however, due to the differences in manufacturing techniques as well as the music traditions of the various Native American tribes, the flutes each have their own unique sound quality, and the precise distances between scale degrees will vary from one flute to another.

In *The Art of the Native American Flute*, Nakai offers fingering charts based on the Boehm system, but says that the charts should not be associated with pitch production. Reminding the reader that all Native American flutes are unique, Nakai cautions the student:

Remember that the note-like symbols indicate only what fingers to depress for either the five- or six-hole flutes to make a higher or lower sound as indicated by its position on the staff lines. In other words, this scale now becomes a *fingering tablature* and is not related to actual pitches in any way.⁶⁰

Both Nakai and Tim R. Crawford, author of *Flute Magic: an Introduction to Native American Flute*, encourage today's flute students to play according to a tuning which is *unique* to both the player and the instrument.⁶¹

⁵⁹ R. Carlos Nakai and James DeMars, *The Art of the Native American Flute* (Phoenix: Canyon Records Productions, 1996) p. 10.

⁶⁰ R. Carlos Nakai and James DeMars, *The Art of the Native American Flute* (Phoenix: Canyon Records Productions, 1996) p. 16.

⁶¹ Tim R. Crawford and Kathleen Joyce-Grendahl, *Flute Magic: an Introduction to Native American Flute* (Pacific, Missouri: Mel Bay Productions, 2008), p.8.

As with all Native American flutes, the F sharp fundamental flute that I used in writing *Hope* and *Soft-spoken Power* does not have the second step of the pentatonic scale readily available at the lowest end of the range. All holes closed sounds an F sharp; the bottom hole open sounds an A. The ‘missing’ G natural and G sharp can be played using quarter and half hole fingerings respectively. However, for *Hope* and *Soft-spoken Power* I chose not to use pitches which required partial finger hole coverings. Playing rapid passages using a partial hole fingering presents a performance challenge.

In historical Native American music, vocal songs are considered property, and singing someone else’s song without permission is akin to theft.⁶² Vocal melodies often incorporate microtones tones, and most people sing ‘down the throat’, as opposed to the open throat style common in western art music. John Bierhorst describes the technique as follows:

To get the right feeling, pretend that you are sobbing, that you are literally choked up with emotion. You will feel the catch in your throat. Take one of your sobs and let the sound keep coming. Now turn that sound into a song, any familiar song. The music will be coming from that place in your throat where you felt the catch. No matter how loud you sing, you will not feel the vibration in the roof of your mouth. You will feel it only in your throat.⁶³

Additionally, men often sing with varying degrees of a ‘tight throat’, for example in the Plains, Sioux, Pueblo and Chippewa tribes. This technique adds a tension to the tone of

⁶² John Bierhorst, *A Cry from the Earth: Music of the North American Indians* (New York: Four Winds Press, 1979), p. 5.

⁶³ *Ibid*, pp.8-9.

voice, sounding gravelly in lower registers and whining in higher registers. Historically, women did not sing with a tight throat because it was considered unfeminine.⁶⁴

Native American flute and vocal melodies have a strong gravitational pull toward the tonic, and always end on the tonic. The tonic is almost always the lowest note on the flute.⁶⁵ Without using half or quarter hole fingering (such fingering is atypical of the genre), the interval between the two lowest notes on the flutes is a minor third. The fact that the songs end on the tonic, and most often the tonic is the lowest note on the flute, means that the majority of Native American flute melodies have a pentatonic flavour. When sixth and seventh scale degrees are added, the predominant mode is dorian.

Flute and vocal melodies in Native American music are governed by speech rhythms, and are often of irregular metre or changing time signature.⁶⁶ Melodies transcribed by Judy Epstein Buss, such as the Kiowa melody shown in Figure 4, are notated without a time signature or bar lines.⁶⁷

⁶⁴ John Bierhorst, *A Cry from the Earth: Music of the North American Indians* (New York: Four Winds Press, 1979), p.9-10.

⁶⁵ Judy Epstein Buss, 'The Flute and Flute Music of the North American Indians', M.Mus. thesis (University of Illinois at Urbana-Champaign), (1977) pp. 31-3.

⁶⁶ John Bierhorst, *A Cry from the Earth: Music of the North American Indians* (New York: Four Winds Press, 1979), p. 6.

⁶⁷ Judy Epstein Buss, 'The Flute and Flute Music of the North American Indians', M.Mus. thesis (University of Illinois at Urbana-Champaign), (1977) p. 45.

Fig. 4 Kiowa melody, transcribed by Buss

♩ = 66 Fl. 45. Kiowa

The musical score is a handwritten transcription of a Kiowa melody. It consists of six staves of music. The first staff is marked with 'a' and 'b'. The second staff is marked with 'a'(-). The third staff is marked with 'c'. The fourth staff is marked with 'b' and 'a'(-). The fifth staff is marked with 'a'(-). The sixth staff is marked with a '+' and ends with a double bar line. The music is written in treble clef with a key signature of one flat (B-flat). The tempo is marked as ♩ = 66 Fl. The title is '45. Kiowa'.

John Bierhorst writes that 'putting these songs into notation is like putting them into a straightjacket'.⁶⁸ He uses the song shown in Figure 5 to illustrate this.

⁶⁸ John Bierhorst, *A Cry from the Earth: Music of the North American Indians* (New York: Four Winds Press, 1979), p. 6.

Fig. 5 Pima flute song

Flute Song
PIMA

Rapidly ♩ = 124

Anonymous, 1927

ku - nye - ya ku - hu - na che - yu - wê wa - ê - mwe - ta - ka
I play my flute and shake her heart. I play my flute and

yung - a - nye - na ta - sha - ê wa - i - ni kê - ma kê - na ka -
shake her heart. Oh, when the sun goes down, I make my

e - pwê - ta che - yo - se - no ka - yung - a - nye - na
flo wers bloom, I shake her heart.

Native American drumming, on the other hand, is governed by body rhythms, and generally has a regular metre. When flute or vocal melodies are accompanied by drumming, it is not uncommon for there to occur seemingly unrelated and opposing rhythms in one song. Bierhorst relates the phenomenon to Native American folklore:

Music like this, in which two or more parts, though heard together, have no connection with each other, is typical of the Indian way of thinking. There are even Indian dances in which the steps are executed in a rhythm entirely independent of the accompanying song. Indian myth makers do the same thing. When they tell stories about Coyote, they have him lighting a fire, shooting a bow, and getting married - things only a human could do. Is Coyote an animal or a man? The answer is that he is both things at once.⁶⁹

The lullaby shown in Figure 6 serves as an example of a song with a regular metre (body rhythm) in the drums and an irregular metre (speech rhythm) in the melody.

⁶⁹ John Bierhorst, *A Cry from the Earth: Music of the North American Indians* (New York: Four Winds Press, 1979), p. 6.

they are not purely ornamental.⁷¹ They perform a specific function in historical Native music, which is to mark structural tones. See, for example, the Kiowa melody shown in Figure 4. The grace notes emphasise the tonic, A, and D and E. Historically, grace notes are most often an octave or a major second away from the main note.⁷² Slides and glissandi are often used in native flute songs. Slides are easily performed on the Native American flute due to the absence of keys.

Whereas grace notes, mordents, and glissandi are familiar to the western concert flutist, a Native American ornament that is not typically used when playing the western concert flute is the ‘lift-off’. This is achieved by releasing all fingers and simultaneously stopping the breath, resulting in a percussive ending to the note. The pitch is irrelevant (and will be different on flutes of various keys), as the pop at the end of the note is the chief aim of the technique. The lift-off is an ornament which is also used in Chinese flute music. I learned this technique while studying Chinese flutes and folk music in Hong Kong, and recognised it as the same when I began study of Native American music. It is not an easily mastered technique, and results will vary even within one piece performed by a single flutist. When I began incorporating this device into my own compositions, I had not yet seen a notation for it, so created my own. My notation for a lift-off is shown in Figure 7.

Fig. 7 Lift-off notation, Stoop



⁷¹ Discussion of uilleann pipes ornamentation is found in Chapter 3.1.

⁷² Judy Epstein Buss, ‘The Flute and Flute Music of the North American Indians’, M.Mus. thesis (University of Illinois at Urbana-Champaign), (1977) p. 49.

Though the lift-off is typically improvised, and not notated, Crawford uses the notation shown in Figure 8.

Fig. 8 Lift-off notation, Crawford



One type of ornament, the warble, is unique to the Native American flute. A warble is a wide vibrato on the fundamental, the lowest note of the flute. Not all flutes are able to produce a warble. Musicologist Dr. Richard Wayne notes that, while a warble is anathema to organ builders, who call it a burble, it is an important feature of traditional Plains flute playing.⁷³

While individual tone quality and style of ornamentation are historically valued among Native American flute players, performance practice is not highly specialised or regimented. Performance is not a determining factor in assessing the competence of the Native American flute player, but rather the performer's memory and command of a large repertoire. Contribution to and perpetuation of tradition are valued over performance ability.⁷⁴

As mentioned in Chapter 2, flute circles emerged in the 1990s in response to growing interest in playing the Native American flute. In her thesis, 'Revival and

⁷³ Tim R. Crawford and Kathleen Joyce-Grendahl, *Flute Magic: an Introduction to Native American Flute* (Pacific, Missouri: Mel Bay Productions, 2008), p. 25.

⁷⁴ Judy Epstein Buss, 'The Flute and Flute Music of the North American Indians', M.Mus. thesis (University of Illinois at Urbana-Champaign), (1977) p. 46.

Community: The history and practices of a Native American flute circle', Mary Jane Jones writes about her personal observation of a flute circle in Ohio over a course of five years. She attributes the development of flute circles to the fact that 'people who had very little musical experience were purchasing flutes from local flute makers and at Native American flute conventions.'⁷⁵ For the members of the flute circle who identified as Native Americans, 'music was a means of connecting to the spiritual and ceremonial elements of their ancestral pasts, and the flute was the tool with which they made this connection.'⁷⁶

Most of the playing at the flute circles is improvisational, and this is consistent with Native American flute playing. Jones writes that 'the format of these improvisational pieces was inconsistent with traditional flute improvisation, since there is no evidence that duets, call-and-response playing, or melodies with ostinato were ever prevalent among Native American flute players of the past.'⁷⁷

In compositions integrating the Native American flute with western orchestral instruments, the composer may call for the ensemble to play in equal temperament tuning. In these cases, the Native American flute player must explore and experiment with their own instrument in order to ensure discovery of ways to play the pitches of equal temperament. Embouchure formation, fingering, breath pressure, and support each play a part in tuning. Standard fingerings for the pentatonic scale need to be checked to ensure that an alternate fingering is not needed to alter the unique tuning of the flute and allow for it to blend in an ensemble using equal temperament tuning.

⁷⁵ Mary Jane Jones, 'Revival and Community: The history and practices of a Native American flute circle', M.A. thesis (Kent State University, 2010), p. 19.

⁷⁶ Ibid, p. 27.

⁷⁷ Ibid, p. 22.

Fig. 10 The author's finger chart, with alternate fingerings

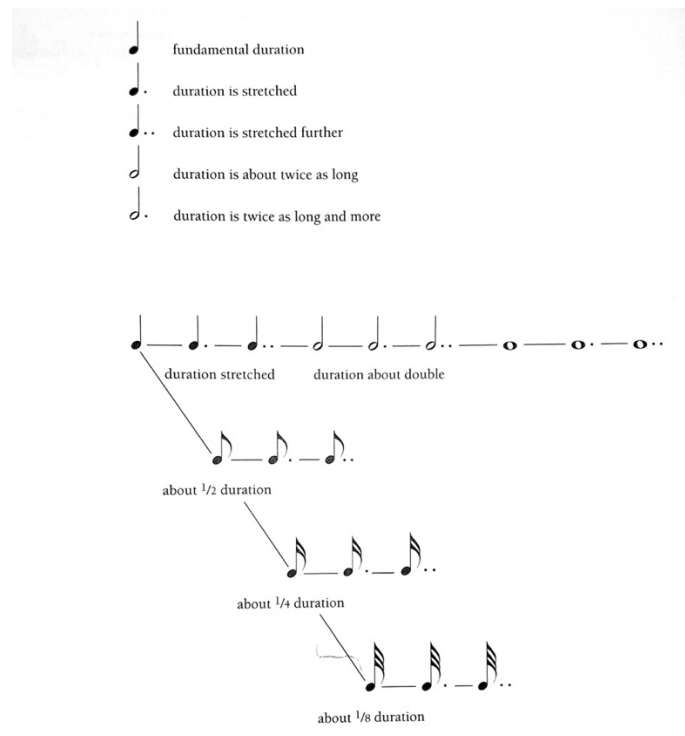
The figure shows a musical staff with a treble clef and a key signature of four sharps (F#, C#, G#, D#). The melody consists of quarter notes: F#, C#, G#, D#, F#, C#, G#, D#, F#, C#, G#, D#, F#, C#, G#, D#, F#, C#, G#, D#. Below the staff is a finger chart with two rows of finger positions (left and right hands) and a column of alternate fingerings (AF, RF) at the bottom. The chart uses solid black dots for fingers to be placed and open circles for fingers to be lifted. An upward-pointing arrow is located below the 10th column of the chart.

With the resurgence of interest in Native American music in the 1960s and 70s, came the need to notate the music in order to make it even more accessible. To accommodate the range of freedom of performance that plays an integral role in Native American music, a new system of notation was developed by Nakai. The eponymously named system, Nakai tablature, is a simplified version of standard notation based on the European music notation system, and is a widely accepted system of notation in contemporary Native American flute music.

Notated in the treble clef, Nakai tablature is always written with a key signature of four sharps, corresponding to the European music scale, E major. When playing a flute with an F sharp fundamental, the four sharp key signature roughly corresponds to the notes readily available on that flute. The pitch notation, however, corresponds more accurately to the *intervals* above the fundamental note. In this way, the modern Native American flute can be seen as a transposing instrument. Regardless of size and key of the flute, the F sharp in Nakai tablature will always represent the fundamental, or lowest note of the flute. This allows for ease of sight reading in using several different size flutes.

The rhythmic notation in Nakai tablature is not nearly as rigid as that of European music notation. The freedom of rhythm represented by the notation reflects the tendency to use speech rhythms, or irregular metres, in Native American flute music. Nakai calls his system of rhythmic notation ‘parlando style’.⁷⁹ Though the symbols are identical to European rhythmic notations, the duration of the notes is quite flexible, as can be seen in Nakai’s table shown in Figure 11.⁸⁰

Fig. 11 Nakai tablature, ‘parlando style’



⁷⁹ R. Carlos Nakai and James DeMars, *The Art of the Native American Flute* (Phoenix: Canyon Records Productions, 1996) pp. 40-2.

⁸⁰ *Ibid.*, p. 42.

James DeMars, a composer and a professor at Arizona State University, has worked closely with Nakai to write many compositions for Native American flute and western orchestral instruments. As per his website, DeMars ‘belongs to a generation that is revealing a new integration of world music with the range, depth and stylistic variety of the classical tradition’.⁸¹ DeMars uses a combination of western European notation and Nakai notation in his compositions. The extracted Native American flute parts of his compositions are notated in Nakai tablature, and the full scores are notated in concert pitch with European notation. In an email correspondence, DeMars describes his method of notation:

My notation is always as simple as possible for the Native American players because they do not read music - they learn to memorize the music and watch for cues. In some cases we hire a prompter to tell them when to begin and end. We want their music to be true to their tradition and to show the conductor approximately what to expect. Usually I create repeated sections (in the US we call them "vamps") where the conductor can repeat or wait until the native player has completed their phrase.

I have used the tablature notation - be careful the word "tablature" means different things to different people.[...] Because Mr. Nakai learned to read music on the flute based on F# (F#, A B, C# D# E, F#) (essentially A pentatonic) I just tell him to change flutes (usually to what we call the "G minor flute" (G, Bb, C, D, F G,) but keep his notation the same. In other cases we use a C minor flute or D minor flute but always notated in F# so he can change easily from one to another.⁸²

The above correspondence not only elucidates the rationale behind notational choices made by DeMars, but it also reveals a deep respect for the Native American flute players, embodied in a desire to accommodate the musicians and an unwillingness to temper expression within their genre.

⁸¹ James DeMars, jamesdemars.net, (2018).

⁸² James DeMars, ‘Re: web contact.’ Email message to the author. 19 February 2018.

Accommodations for the freedom of rhythm which is characteristic of Native American flute playing are incorporated into his scores, such as *senza misura* sections and cuing instructions, as can be seen at the opening of *Tarot*, a work for Native American flute and string quartet, shown in Figure 12.

Fig. 12 Opening of *Tarot*, by James DeMars

TAROT: Music for Strings and Cedar Flute

For R. Carlos Nakai

I. First Draw: XXI-VII-X
(The Earth, the Rider, and Times to come)

JAMES DeMARS
2011

With calm confidence

NAF in G (a call to the water...)

"Tell the story as you see it..." "no one knows what you see..."

[Speak these ideas in your own words or sing the ideas on improvised vocables]

mp

NAF. 1 VIOLA CUE

6 *mp* 3

Vla. *mf* *p* *mp*

senza misura with NAF

NAF. 7

10 *mp* 3 3

Vla. 13

The musical score is presented in two systems. The first system features the NAF in G part with two boxes of improvisation instructions: "Tell the story as you see it..." and "no one knows what you see...". Below these is the instruction "[Speak these ideas in your own words or sing the ideas on improvised vocables]". To the right is the NAF melodic line starting with the instruction "(a call to the water...)" and a dynamic marking of *mp*. The second system shows the NAF and Viola parts. The NAF part begins at measure 6 with a *VIOLA CUE* and includes a triplet of eighth notes. The Viola part is marked *senza misura with NAF* and includes dynamic markings of *mf*, *p*, and *mp*. The second system also includes a triplet of eighth notes in the NAF part and a triplet of eighth notes in the Viola part, with measure numbers 7 and 13 indicated.

DeMars begins the movement with a flute solo which is typical of Native American flute melodies, namely the repetition and ornamentation of the tonic as an opening phrase (compare with Buss's transcription of the Kiowa melody shown in Figure 4). The tonic is approached and ornamented with perfect fifths, an interval which is neither especially common nor particularly rare in Native American music (it is, however, historically atypical to embellish the tonic with a grace note at an interval of a fifth). The *senza misura* indications, the long held notes, and the clearly marked cues allow the Native American flutist to perform with the rhythmic freedom which is idiomatic to the genre.

Today, greater freedoms in ornamentation are employed in the composition of new music for the Native American flute. Many of the ornaments and articulations used in contemporary native flute music are identical to those used when playing a western concert flute, such as mordents, trills, grace notes, and fluttertongue, as can be seen in the prolific output of both Nakai and DeMars. While largely idiomatic to historical tradition, compositions by Nakai include turns and trills, which are not typical in historic Native American flute music. DeMars uses a single grace note, E, to embellish various scale degrees in his composition *Crow Wing*, a duet for Native American flute and alto saxophone.⁸³ While grace notes are idiomatic to Native American flute, his use of them is not. The grace notes do not mark structural notes and are not at intervals of an octave or a second, but thirds and fourths.

DeMars contributes a great deal to the contemporary repertoire of the Native American flute. His output is vast, and his compositions reflect a profound understanding of and appreciation for the flute and Native American music in general. In his

⁸³ James DeMars, *Crow Wing* from *Native Tapestry*, (Phoenix: Canyon Records Productions, 1996).

correspondence, as well as in his compositions, he exhibits tremendous respect for Native American flute players. This respect is manifested in accommodation of the players, allowing them to perform in a way that is natural to them. While canonic interplay is a feature of his compositions, the dialogue between instruments of differing genres maintains a stylistic integrity of the traditions.

2.2 Commentary on *Hope*

Hope sets a poem by Emily Dickinson, ‘Hope is the Thing with Feathers’, and is written for two sopranos, Native American flute, western concert flute, clarinet, and percussion. In *Hope* the music written for the Native American flute primarily adheres to idiomatic expressions, and this affects the writing for the rest of the ensemble. The embellishments in the western concert flute and clarinet lines are informed by Native American idioms.

Hope is written using western European notation, and not Nakai tablature. The approximate rhythms transcribed through Nakai tablature are not appropriate for *Hope*. While there is indeed room in the work for slight alterations of rhythm through use of rubato, the cohesiveness of the ensemble is dependent on accurate measurement of notated durations. The lack of chromaticism in the work, and the fact that the piece calls for an F sharp Native American flute, mean that no deviation from the Nakai method of notating pitch resulted in the use of western European notation.

My compositional focus in writing *Hope* is the incorporation of the Native American flute into an ensemble with western orchestral instruments. There was no intention of incorporating the Native American style of singing ‘down the throat’, and Native American percussion instruments are not used. The vocal sound is modelled in part on the simple yet elegant manner of singing found in the Music on Main performance of

Caroline Shaw's *By and By*.⁸⁴ In the premiere performance of *Hope*, the sopranos sang in an operatic style, and the result was a clash of timbres between the sopranos and the Native American flute.⁸⁵ After that performance, the direction to sing 'simply, with minimal vibrato throughout' was added to the score.

In *Hope*, the music for the Native American flute and the percussion remains close to Native American idiom. The percussion part is written for wooden guiro and four toms. In Native American music, drums are not played with the hands, but a beater that is often covered with a cloth at the striking end. To simulate the sound of native drums in *Hope*, the toms are muffled with cloths, and yarn mallets are used throughout.

The opening solo melody for the Native American flute is in F sharp pentatonic, a mode which is quite common in modern Native American music.⁸⁶ The overall absence of minor seconds, fifths, and major and minor sevenths is consistent with the typical construction of Native American flute melodies. The opening melody is embellished with glissandi and a slide, grace notes and a mordent, all ornaments typical of recent developments within the Native American genre, as seen in compositions by Nakai.

Throughout the piece, the lift-off is used in all wind parts. As the technique is not commonly used in western art music, a detailed description of how to execute the lift-off is provided for the players in the glossary of *Hope*. Examples of my notation for the lift-off are seen in bars 8, 10, and 11, as shown in Figure 13.

⁸⁴ Caroline Shaw, *By and By*, (Music on Main, Calder Quartet, 2014). Video recording. Published 15 August 2014. Web. <https://www.youtube.com/watch?v=EyDvnUYB0sk>. Accessed 8 September, 2017.

⁸⁵ *Hope* was premiered 31 May 2018 in the Samuel Beckett Theater, Trinity College Dublin.

⁸⁶ R. Carlos Nakai and James DeMars, *The Art of the Native American Flute* (Phoenix: Canyon Records Productions, 1996) p. 16.

Fig. 13 *Hope*, bars 1–14

Hope

Emily Dickinson Margaret Collins Stoop

♩ = 66

The musical score for 'Hope' by Emily Dickinson, composed by Margaret Collins Stoop, spans bars 1 to 14. It is written in 4/4 time with a tempo of 66 beats per minute. The score includes parts for Soprano, Mezzo-Soprano, Percussion (Quad toms, muffled throughout, yarn mallets), Western Concert Flute, Native American Flute, Clarinet in Bb, Perc. (Percussion), N.A. Fl. (Native American Flute), and Bb Cl. (Clarinet in Bb). The score includes dynamic markings such as *mp*, *p*, *mf*, *f*, and *ppp*, and performance instructions like 'simply, with minimal vibrato throughout' and 'lift-off'. The Native American Flute part has a 'lift-off' marking at the end of bar 14.

Before setting the poem, ‘Hope is the Thing with Feathers’, I scanned it in order to find the prevailing metrical pattern inherent in the text. Whereas most of the poem is in a strict iambic metre having feet of short-long duration, the first line of the poem is in irregular metre, with three feet of varying metres: a dactyl, a spondee, and a trochee.⁸⁷ The first line is the only line that begins with a strong beat, and the strong beat is on the word ‘hope’, the central conceit of the poem. This sets up the metaphor immediately, and distinguishes the opening statement as separate and more forceful than the rest of the poem. The scansion is presented below, with strong beats marked with slashes, the weak beats with dashes, and the feet separated by vertical lines.

⁸⁷ The scansion is my own. Scholars disagree about the metrics of first lines of Dickinson’s poems. Thomas H. Johnson, (ed), *The Complete Poems of Emily Dickinson* (Boston, Toronto: Little, Brown and Company, 1960).

/ | - - | / / | / -
 'Hope' is the thing with feathers –
 - / | - / | - /
 That perches in the soul –
 - / | - / | - / | - /
 And sings the tune without the words –
 - / | - / | - /
 And never stops - at all –

 - / | - / | - / | - /
 And sweetest - in the Gale - is heard –
 - / | - / | - /
 And sore must be the storm –
 - / | - / | - / | - /
 That could abash the little Bird
 - / | - / | - /
 That kept so many warm –

 - / | - / | - / | - /
 I've heard it in the chilliest land –
 - / | - / | - /
 And on the strangest Sea –
 - / | - / | - / | - /
 Yet - never - in Extremity,
 - / | - / | - /
 It asked a crumb - of me.

The irregular metre of the opening melody of *Hope*, which echoes the Dickinson's use of irregular metre to begin the poem, is also idiomatic to native flute playing. The poem employs an extended metaphor, in which hope is represented by a bird. In Native American music, flute and vocal music are said to be in the rhythm of birdsong, or speech rhythm. Despite the fact that *Hope* begins in a 4/4 time signature, neither the Native American flute nor the percussion fit into this metre. Adhering to Native American idiom, the percussion part is governed by a relatively steady metre, while the flute line is irregular. The 4/4 time signature is not to indicate a strong beat on the downbeat of each bar; rather the choice to use 4/4 was made to facilitate reading. Stresses are marked in the score to show where the strong beats lie in each part (see Figure 13).

Strong beats in the vocal line are dictated by the text, as is typical in Native American music.⁸⁸ After the entrance of the voices in bar 17, frequent time signature changes accommodate the stresses in the text and make clear to the singers where the strong beats lie (see Figure 14). The percussion continues to beat a relatively steady pattern which is at odds with the speech rhythms of the vocal lines. The juxtaposition of regular and irregular metres, here and in the opening bars, reflects the influence of Native American music on the work as a whole.

Fig. 14 *Hope*, bars 29-37

The musical score for 'Hope', bars 29-37, consists of six staves. The top two staves are for the vocalists: Soprano and Mezzo-Soprano. The lyrics are: 'Hope is the thing with fea-thers, Hope, Hope, Hope, Hope'. The vocal lines feature various dynamics including *p*, *mp*, and *pp*, and are marked with slurs and accents. The percussion part is shown on two staves, with a steady rhythmic pattern. The Western Concert Flute part features melodic lines with dynamics like *pp* and *ppp*, and is marked with slurs and accents. The Native American Flute and Clarinet in Bb parts also feature melodic lines with dynamics like *mp* and *pp*.

With the switch to a 6/8 time signature initiated by the percussion in bar 87, the second two stanzas of the poem are set with relatively stable metres. While this reflects the consistent metre in the poem, a pattern of alternating four and three iamb lines, the rocking

⁸⁸ The brief passage in 4/4 bars 166-71 serves to highlight the word 'never' as one of a certain weight. In Dickinson's poem the word is emphasised via a hyphen before and after.

motion of the triplet metre also portrays the rocking of the ‘strangest Sea’ and suggests a lullaby aspect to the birdsong of the ‘little Bird / That kept so many warm’.

Throughout the piece, the dynamic markings for the Native American flute are consistently louder than those for the rest of the ensemble, and this is to accommodate for the fact that the range of dynamics available on the Native American flute is narrower than that of western orchestral instruments.⁸⁹ Similar to recorder playing, the pitch is subject to change depending on the air speed and pressure. Consequently, increasing the air speed and pressure in order to increase volume runs the risk of playing ‘out of tune’. A range of dynamics *is* achievable on the Native American flute with proper embouchure adjustment, but it is a relatively small range. In order to achieve the desired balance between the instruments, the ensemble is kept mindful of the difference in dynamic range by the exaggerated differences in the markings.

In bars 106-11 the Native American flute is indeed subsumed into the ensemble. This is reflective of the text sung during those bars, ‘and sore must be the storm’. The storm momentarily engulfs the ‘bird’, here represented by the Native American flute.

While *Hope* is strongly influenced by Native American music, the influence within the ensemble is bilateral. As I am both composer of the work and a Native American flute player (I played in the premiere performance), the Native American flute part is written with my own practice and style in mind. Placing the Native American flute in an ensemble with *any* other instruments deviates from the historic tradition of solo performance. As an ensemble member, the Native American flute plays precisely notated rhythms, not

⁸⁹ The loudest note sounded on the Native American flute is the fundamental, or lowest note.

approximate rhythms, such as those transcribed in works by Nakai and DeMars. While the grace notes throughout *Hope* adorn structural notes, they are more often at an interval of a fourth, and not at the customary second or octave. Though Native American flutes vary in their individual tuning, it is here integrated into an ensemble playing in equal temperament, and tuning adjustments are made. As discussed in Chapter 2.1, I developed and use a system of alternate fingering in order to play in equal temperament.

2.3 Commentary on *Soft-spoken Power*

Soft-spoken Power expands on the concept of a Native American flute solo, deviating from idiom in its tuning, harmonic language, and overall stylistic expression. It is not hypnotic or meditative; the ABA form contains an energised middle section which is characterised by angular lines and aggressive articulation.

As a work for solo Native American flute, it is certainly possible that *Soft-spoken Power* be performed in the tuning which is unique to each flute and to each performer, as is customary in the Native American genre; however, it is my intention that the piece be performed in equal temperament.⁹⁰ This has more to do with offering the instrument a new form of expression than with stripping it of a key feature. Deviating from the idiomatic pentatonic scale, the piece is quite chromatic. Conception and development of chromatic gestures is dependent on equal temperament in order to hear the tension intended with the semitone laden motives. In especially chromatic passages, bars 33-5 for example, a series of equidistant semitones is a defining aspect.

Fig. 15 *Soft-spoken Power*, bars 33-5



⁹⁰ As noted in Chapter 2.1, I discovered and use alternate fingerings for my own flute in order to play in equal temperament.

Though the work begins and ends firmly in the characteristic key of F sharp pentatonic, the bulk of it uses pitches not frequently played on the Native American flute. Within the sections which are in F sharp pentatonic, the repetition of the third scale degree, B, rather than the tonic, deviates from common practice in the construction of Native American flute melodies. It is not until bars 11 and 12 that a firm cadence on the fundamental is reached. The structural weight of F sharp is marked in those bars by repetition, a grace note (though not the characteristic major second or octave), and a lift-off. These gestures provide a strong gravitational pull to the tonic, similar to those observed by Buss.⁹¹ The repetition of the tonic in bar 11 - as well as in the final two bars of the work - allows for inclusion of the idiomatic warble, if this technique is available to the flute and/or the player.

Fig. 16 *Soft-spoken Power*, bars 1-12

Pensive, freely ♩ = 84

mp < > < > > p mp

7 warble +
< mf mp

Despite the initial emphasis on the third scale degree rather than the tonic, the opening twelve bars of *Soft-spoken Power* conform to a harmonic realm expected from the

⁹¹ Judy Epstein Buss, 'The Flute and Flute Music of the North American Indians,' M.Mus. thesis University of Illinois at Urbana-Champaign, (1977).

instrument. It is not until bar 19 that a chromatic pitch, D natural, is played. The D natural initiates a level of chromaticism which is in no way idiomatic to Native American flute music and which continues until the return of the opening melody in bar 112. An energetic melody incorporating tritones and minor seconds is uncharacteristic of the genre, as are grace notes at intervals other than major seconds or octaves.

Articulation, in addition to harmonic language, plays a role in the deviation from idiom. Notes played non legato on the Native American flute produce a distinctive, sharp sound, though this is rarely heard in either historic or contemporary music. The semiquaver notes played non legato in bars 28-35 and bars 89-106, for example, incorporate this sound and impart a demonstrable and non-idiomatic tension to the work. Additionally, the articulated grace notes on nearly every note in bars 63-9 with frequent use of staccato create a level of activity not typically found in Native American flute music (see Figure 17).

Fig. 17 *Soft-spoken Power*, bars 63-9



A brief return to the discussion of notation serves to elucidate an additional aspect of *Soft-spoken Power*. As stated in Chapter 2.1, Nakai tablature was developed in order to make Native American flute playing accessible to a wider range of people, and built into the system is a freedom (particularly rhythmic freedom) which accommodates and

encourages individual interpretation of the music.⁹² While Nakai instructs the student on various symbols of ornamentation and includes them in his transcriptions, he himself does not play exactly what he has notated. Comparing Nakai's performance of many of the songs in *The Art of the Native American Flute* with his performance of these songs on the album, *Changes*, one notes many differences between the notation and the performance.⁹³ It is understood, then, that Nakai's transcriptions are to be played with a great deal of artistic license.

DeMars uses Nakai tablature in his compositions, and cues are built into his scores in order to allow performers an indeterminate amount of time to complete a passage. This is done with the deliberate intention to accommodate rhythmic freedom, allowing the performer a certain measure of comfort within a familiar set of parameters.⁹⁴

The articulations and ornaments in *Soft-spoken Power*, on the other hand, are to be played as literally as possible, as are the rhythms. The non-idiomatic grace notes and the fast paced rhythms imbue the piece with an energised tension. A looser interpretation of the score might mitigate some of the intended tension. A performance dependent on faithful rendering of the score is in itself an act which is not typical in Native American flute playing.

⁹² R. Carlos Nakai and James DeMars, *The Art of the Native American Flute* (Phoenix: Canyon Records Productions, 1996) pp. 33-47.

⁹³ R. Carlos Nakai, *Changes* (Canyon Records), CD, (1983).

⁹⁴ The full scores of DeMars's works are notated in western European notation, but the extracted parts for the Native American flute player are written using Nakai tablature.

3

Introduction to Commentary on *Moving Toward Home*

Moving Toward Home is a work for uilleann pipes, clarinet, bassoon, and cello. The composition employs non-idiomatic harmonies and musical gestures, and makes novel use of the regulators through contrapuntal voice leading.

Shortly after moving to Dublin from New York in 2017, I began attending twice weekly sessions of Irish traditional music to learn more about the genre. As a wind player, I was fascinated by the uilleann pipes. I was impressed by the broad range of capabilities that seem to be inherent in the instrument, and grew curious about how many different sounds it could make. Having heard the pipes only in Irish traditional settings, I wondered what it would be like to hear them in other contexts, or playing non-Irish music.

Before beginning work on *Moving Toward Home*, I read papers analysing the music and notation of Liam O’Flynn and Séamus Ennis, listened to and examined the scores of works by contemporary composers featuring the uilleann pipes, including works by Shaun Davey, David Flynn, Roger Doyle, Michael Holohan, Philip Martin, Gerry Murphy, and Kevin Volans.⁹⁵ I also met with several pipers in person to learn more about the instrument. Pipers interviewed include Éamonn Galldubh, Joe McHugh, Terry Moylan, and Néillidh Mulligan.

Areas of particular interest in my research include the maintenance of textural and dynamic balance within the ensemble, variety of style and technique among pipers and how that effects performance, and the mechanics of the instrument. I sought to discover to what

⁹⁵ James R. Cowdery, *The Melodic Tradition of Ireland* (Kent, Ohio and London, England: The Kent State University Press, 1990); Pat Mitchell, *The Dance Music of Seamus Ennis* (Dublin: Na Piobaoirí Uilleann, 2007).

degree embellishments typically played on the uilleann pipes are a result of mechanical necessity, and how this effects the construction of a melodic line, as well as the possibility of using the regulators of the pipes beyond the role of homophonic and diatonic support.

Fig. 18 Néillidgh Mulligan, performing in The Cobblestone, Dublin ⁹⁶



⁹⁶ Photo by the author, with Mr. Mulligan's permission.

3.1 The Uilleann Pipes

The Irish term for the uilleann pipes is *piobáí uilleann*, which means ‘pipes of the elbow’.⁹⁷ Both elbows are used when playing; one to pump the bellows and the other to control the release of air and - to some extent, the volume. An earlier name for the instrument was ‘union pipes’.⁹⁸ This name addresses the fact that there are three elements to the pipes: the chanter, the regulators and the drones, and these three together form a union when playing.

Fig. 19 Séamus Ennis’s uilleann pipes⁹⁹



The chanter is like a fife, held and played with both hands, but the air comes from bellows, not the piper. The chanter has been treated as a transposing instrument for

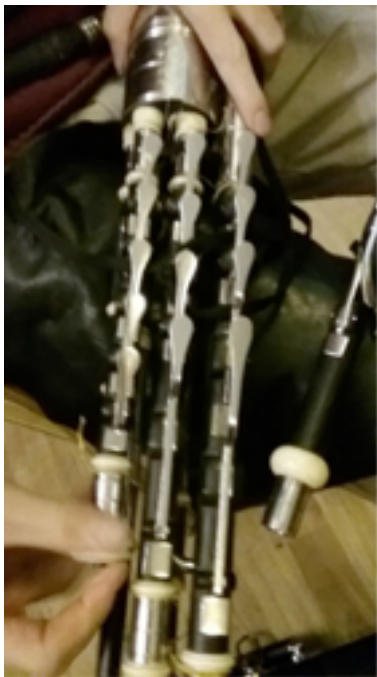
⁹⁷ Breandán Breathnach, *Folk Music and Dances of Ireland* (Cork: The Mercier Press, 1971), p. 77.

⁹⁸ Pat Mitchell, *The Dance Music of Séamus Ennis* (Dublin: Na Piobaoirí Uilleann, 2007) p. xix.

⁹⁹ Photo by Oliver Murray, from *The Dance Music of Séamus Ennis*.

centuries, with the lowest note designated as D4.¹⁰⁰ The basic range of the chanter is from D4 to E6, with chromatic tones available through the use of keys or cross fingering techniques. The regulators, which are typically used to create harmonic accompaniment, are controlled by keys typically depressed by the side of the right hand, and sound notes diatonic to D mixolydian or G major. The drones usually sound continuous pitches D2, D3 and D4 and are activated by switching a key on or off.

Fig. 20 The regulators of Éamonn Galldubh's uilleann pipes

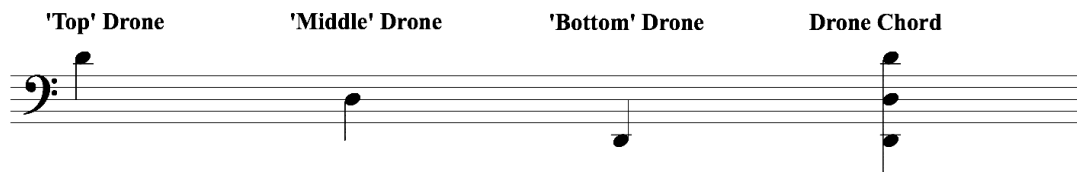


¹⁰⁰ Pat Mitchell, *The Dance Music of Séamus Ennis* (Dublin: Na Piobairí Uilleann, 2007) p. xix.

Fig. 21 Range of uilleann pipes regulators



Fig. 22 Range of uilleann pipes drones



Uilleann pipes were developed from earlier forms of bagpipes, which depended on continual flow of air to produce sound. With continuous airflow, it is necessary to insert an ornament to ‘cut’ the note in order to sound consecutive notes of the same pitch. This technique has carried over into ornamental technique on the uilleann pipes.¹⁰¹ A distinguishing feature in the uilleann pipes is the ability to stop air flow by means of depressing the chanter on the knee.¹⁰² Being able to play the chanter on or off the knee offers a small range of variety in tone, dynamics, and articulation. While it is possible to insert rests or staccato notes on some pitches, articulation on the uilleann pipes is

¹⁰¹ Pat Mitchell, *The Dance Music of Séamus Ennis* (Dublin: Na Píobaoirí Uilleann, 2007) p. xxi.

¹⁰² Terry Moylan, ‘A Short History of the Uilleann Pipes’, *History Ireland*, 26, (2018) p. 49.

controlled primarily by the fingers.¹⁰³ The range of articulation is narrower than that of a tongued wind instrument, but informed choices will offer subtle variety. For example, using a grace note to cut a note from higher than the step above will make a stronger attack on the goal note.

Ornaments in Irish traditional music are used particularly to emphasise rhythm. Common ornaments are shown in Figure 23. The names for the ornaments vary among players and regions.

Fig. 23 Common ornaments in Irish traditional music

cut tap pat double cut

long roll short roll

cran

¹⁰³ Lawrence E. McCullough, 'Style in Traditional Irish Music', *Ethnomusicology*, 21, (1977) p. 89.

Grace notes (common names include ‘cuts’, ‘taps’, or ‘pats’) are performed much more quickly in Irish tunes than in western art music, almost to the point of being inaudible. Pat Mitchell, author of *The Dance Music of Séamus Ennis*, notes that Ennis's use of two types of grace notes within a line of melody - one a step above or below, one at a wider interval, resulted in ‘virtually inaudible textural changes which kept each repeat of the tune sounding fresh and exciting’.¹⁰⁴ According to Mitchell, the grace note and the roll (use of both upper and lower grace notes) are the most frequently used ornaments across a wide range of musicians playing Irish traditional music. The *cran* is an embellishment whose development may be specifically attributed to uilleann pipers, typically used to adorn the lowest pitch of the chanter, where a roll is not possible.¹⁰⁵ It is an elaborate ornamentation in which multiple grace notes of differing pitches divide a note, creating a sort of warbling sound, and can be said to offer the quintessential piping sound.

Styles and manner of playing vary among uilleann pipers. Some pipers will rarely use the drones, others will make great use of the regulators. An open (off the knee), legato style of playing is associated with the travelling community (Finbar Furey, for example), while a closed (on the knee) style with more staccato passages is associated with an urban, Dublin community (Séamus Ennis, for example).¹⁰⁶ According to master piper, David Power, ‘There is no standardisation in the way they are learned or played - each player will have different abilities’.¹⁰⁷

¹⁰⁴ Pat Mitchell, *The Dance Music of Séamus Ennis* (Dublin: Na Píobaoirí Uilleann, 2007) p. xxii.

¹⁰⁵ Niall Keegan, ‘The Parameters of Style in Irish Traditional Music’, *Inbhear, Journal of Irish Music and Dance*, 1, (2010) p. 70.

¹⁰⁶ *Ibid*, p. 77.

¹⁰⁷ David Power, ‘Re: New From Entry. Contact Form.’ Message to the author. Email. 17 October 2018.

Given the breadth of styles and lack of standardisation, it would seem advantageous to compose for the uilleann pipes with a specific piper in mind. In developing a working relationship with a piper, the question is raised: is the composer writing for that particular piper, a piece customised to the skills and preferences of one, and not necessarily accessible to pipers at large? The answer, of course, will depend on upon the goals of the composer and whether or not it is the composer's intention to contribute to the repertoire of an individual or to the general body of works written for the uilleann pipes.

Sean Davey and Kevin Volans are amongst the many contemporary composers who have written works for specific pipers. Davey's *The Brendan Voyage*, was composed for Liam O'Flynn, and Volans's *Gol Na mBan San Ár (The Lament of the Women at the Slaughter)* was composed especially for David Power. Both works differ from the traditional uilleann pipes repertoire in that the pipes are supported by an orchestra of western orchestral instruments. In both instances, however, the composers rely upon the style and technique imparted by the soloists to shape the music. Despite the novel setting, O'Flynn and Power perform music which remains by and large within idiom.

The Brendan Voyage is a suite in ten movements for uilleann pipes and orchestra.¹⁰⁸ Composed in 1979, it is a seminal work in that it is the first major example of the inclusion of uilleann pipes in a western orchestral setting. A review of the recording of the suite seventeen years after its release is testament to a lasting impression, calling its 'critical and popular success' as 'ground-breaking as the music itself', and naming the work as 'an

¹⁰⁸ Shaun Davey, *The Brendan Voyage* (1979). Tara Music Ltd. CD. Recording. (1980).

absolute cornerstone for so many subsequent developments'.¹⁰⁹ The pairing of the uilleann pipes with an orchestra was to have such an impact that thirty years later, on 8 July 2010, the Irish public broadcaster Raidió Teilifís Éireann (RTÉ) broadcast a special program entitled, 'The Brendan Voyage - Celebrating 30 Years', to commemorate the thirtieth anniversary of the composition.

In *The Brendan Voyage*, the uilleann pipes are definitely the main character (the voice of the medieval boat), while the orchestra plays a supporting role in a work built on idiom and traditional harmonies. Davey's intention to adhere to and to showcase customs of Irish traditional music can be deduced from his own words, taken from an interview with Tara Music Company.

In the past, classical composers have had a somewhat imperial attitude towards vernacular music. 'They took the tunes and brought them into the concert hall,' says Shaun Davey. 'But where was the traditional musician? They left him back in the pub.'¹¹⁰

There are instances in *The Brendan Voyage* of the orchestra taking on some of the gestures characteristic of the pipes, demonstrating a momentary exchange of influence between the two genres, western art music and Irish traditional music. For example, in the sixth movement, 'Mykines Sound', the brass takes on the role of the regulators, providing the harmonic punctuation typical of the regulators. Later in the same movement there is a solo passage for the pipes in which the regulators feature prominently, and this is a slight deviation from what is typically expected of the instrument.

¹⁰⁹ Raidió Teilifís Éireann Staff, 'Grace Notes Specials & Interviews. The Brendan Voyage - Celebrating 30 Years.' *Raidió Teilifís Éireann*, (2010).

¹¹⁰ Julian May, 'Tools of the Trade', *Songlines* via *Tara Music Company*, (2016).

Volans's *Gol Na mBan San Ár* (*The Lament of the Women at the Slaughter*) was premiered in 2018 by David Power and the RTE Orchestra.¹¹¹ Volans wrote his own notes for the programme, in which he addresses three factors he found necessary to consider as he embarked on writing a piece for the uilleann pipes: notation, tuning and timbre, and original context.

This commission presented me with several problems to consider: firstly, uilleann pipers traditionally don't use music notation to learn new pieces, and work by ear and from memory; secondly, the instrument has of course not been modified to accommodate the needs of Western 'classical' music (the current form of the pipes is 18th century); and not least it is a national treasure, which demands a certain respect. So I tried to find a musical style which, while not being 'folksy' in any way, took into account the traditions of the instrument. A few times in the piece I made reference to David Power's version of the traditional piece *Gol Na mBan San Ár* (*The Lament of the Women at the Slaughter*). Thanks to David's extraordinary enthusiasm, hard work and talent, I was largely relieved of the need to take the player's problems into consideration.¹¹²

The last line, 'I was largely relieved of the need to take the player's problems into consideration', belies a sense of Volans working closely with Power as he composed the piece. An examination of the score will corroborate this.

Placing the uilleann pipes in a new context, in a performance with western orchestral instruments, necessitates an awareness of the dynamic balance within the ensemble to ensure that the pipes are not overpowered in volume. In *Gol Na mBan San Ár*, however, the pipes are often overwhelmed by the orchestra, despite being electronically amplified in the premiere performance. As a member of the audience, I witnessed Power

¹¹¹ I attended the concert at which it was premiered, on 22 September 2018 in the National Concert Hall in Dublin.

¹¹² Kevin Volans, 'Continental Drift: Chin, Wu, Volans, Power', program notes for *Gol Na mBan San Ár* (*The Lament of the Women at the Slaughter*). National Concert Hall: New Music Dublin, (2018).

working at switching the drones on and off, but the presence or lack of presence of the drones in the texture was not readily discerned. Fleeting melodic lines performed later in the work on the chanter are also overpowered by the orchestra. In an interview with the online Irish magazine, *The Journal of Music*, Volans says that he sometimes allows ‘the orchestra to envelop and almost drown the soloist on occasions, in some virtuosic waves of sound’. He adds, ‘I don’t know if I achieved a perfect balance – it was one of the most difficult commissions I’ve tackled’.¹¹³

The piece is subtitled a *Concerto for Uilleann Pipes and Orchestra*, yet the material written for the pipes limits their ability to shine as a featured solo instrument. Much of the material involves long, almost static phrases, as in bars 2-10 (a motive which is repeated several more times), and in bars 54-73.¹¹⁴

Fig. 24 *Gol Na mBan San Ár*, bars 1-10

The musical score for *Gol Na mBan San Ár*, bars 1-10, is presented in four staves. The top staff is for the UP Chanter, the second for UP Regulators, the third for UPC, and the fourth for UPR. The time signature is 6/8. The UP Chanter and UPC parts play a melodic line of eighth notes, while the UP Regulators and UPR parts play a rhythmic accompaniment of eighth notes and rests.

¹¹³ The Journal of Music staff. ‘One of the most difficult commissions I’ve tackled’ – Kevin Volans on His New Uilleann Pipes Concerto”, *The Journal of Music*, (2018). <https://journalofmusic.com/news/one-most-difficult-commissions-ive-tackled-kevin-volans-his-new-uilleann-pipes-concerto>. Web. Accessed 9 September 2018.

¹¹⁴ A perusal and pre-published score of the work was generously offered by Volans.

Fig. 25 *Gol Na mBan San Ár*, bars 54-73

The musical score for Fig. 25 shows two systems of music. Each system has an upper part (UPC) and a lower part (UPD). The upper parts are written in treble clef, and the lower parts are in bass clef. The music consists of several measures with various rhythmic values, including quarter notes, eighth notes, and rests. The time signature is 15/8 for the first system, changes to 6/8 for the second system, and returns to 15/8 for the third system. The notes are often beamed together, and there are some slurs over the lower parts.

Only occasionally is the chanter used to deliver lyrical lines capable of the instrument.

Examples include two snippets of lyricism in bars 125 and 141,

Fig. 26 *Gol Na mBan San Ár*, bar 125

The musical score for Fig. 26 shows bar 125. It consists of an upper part (UPC) and a lower part (UPD). The upper part is in treble clef, and the lower part is in bass clef. The time signature is 15/8. The upper part has a melodic line with a slur over the final notes, and the lower part has a few notes with a slur.

Fig. 27 *Gol Na mBan San Ár*, bar 141

The musical score for Fig. 27 shows bar 141. It consists of an upper part (UPC) and a lower part (UPD). The upper part is in treble clef, and the lower part is in bass clef. The time signature is 12/8. The upper part has a melodic line with a slur, and the lower part has a few notes with a slur.

and longer lines in bars 149-57 and bars 170-9, as seen in Figures 28 and 29.

Fig. 28 *Gol Na mBan San Ár*, bars 149-57

Fig. 29 *Gol Na mBan San Ár*, bars 170-9

It is not until bar 518 that the pipes are assigned a more active role, with a 6/8 melody in the chanter punctuated by chords on the regulators; however, this is enveloped by similar rhythms played forte in the orchestra. The relief in melodic stasis, which is nonetheless obscured by the orchestra, continues only until bar 585, after which the pipes return to the passages of long held notes.

It is certain that Volans understood that the music written for the uilleann pipes will be heavily ornamented by the player, yet he made scant attempt to shape the outcome, including very few notated embellishments. On the other hand, articulation for the orchestra is heavily notated. The many staccato notes and phrasing that is idiomatic to western European orchestra have the effect of distinguishing the two realms as separate, as there is little interaction or exchange of influence between the genres.

Volans writes in his program notes that he took into consideration the tradition among uilleann pipers to learn new music by ear and from memory, not by reading music. A reliance on oral transmission is reflected in the lack of expression and articulation

markings for the uilleann pipes in the score. Phrase and dynamic markings appear in the uilleann pipes part quite sparingly throughout *Gol Na mBan San Ár*. When a dynamic *is* indicated, it is always forte, despite the capability of the pipes to vary dynamics, however narrow that variance might be. There is a single instance of articulation notated with two staccato markings in bar 240. Grace notes are specifically notated in just nine separate instances. The sparse indication of dynamics, articulation, and ornamentation for the pipes in Volans's score leaves much room for interpretation and for the mood and tone of the music to be determined by the musician, not the composer. In this sense, Volans offers the soloist the freedom to incorporate Irish idiom according to his own custom and preferences.

In their compositions for the uilleann pipes, both Davey and Volans take into account the pipers' traditions, and express through their words as well as their music a desire to incorporate (one might even say to pay homage to) idioms of Irish traditional music. While both works place the uilleann pipes in a new context, the music written for the pipes does not stray very far from that which is typically performed or expected.

Indeed, I have discerned that among pipers there is a culture of resistance to new music for the pipes. Many pipers with whom I have spoken are sceptical about the idea of writing something new for the instrument. Terry Moylan, archivist for Na Píobairí Uilleann, expressed marked distaste for the idea, claiming that the wealth of good Irish music would be sullied by the addition of a new work with harmonies and gestures not typical of the Irish tradition.¹¹⁵

¹¹⁵ Terry Moylan, personal interview. 5 March 2018.

Roger Doyle's *Ceol Sidhe* (Fairy Music) is a contemporary work written for a trio of Irish traditional instruments: tin whistle, uilleann pipes, and Irish harp.¹¹⁶ In this composition, the uilleann pipes are performing with instruments of the same genre, and so the balance is easily maintained. The trio does not include western orchestral instruments, but the musical material effectively introduces non-idiomatic harmonies and textures. *Ceol Sidhe* will be further discussed in Chapter 6.1.

The three elements of the uilleann pipes - the chanter, the regulators, and the drones, offer much to explore. The ability to play non-diatonic notes on the chanter suggests that the pipes are suited to playing chromatic music. The regulators provide an opportunity to play multi-textured music, in the form of vertical simultaneities (not necessarily diatonic chords) or counterpoint. As the multi-faceted instrument is introduced to different settings, the ability to move beyond the scope of Irish traditional music is readily discovered.

¹¹⁶ Roger Doyle. 1973a. *Ceol Sidhe*. Contemporary Music Centre Archive. Music Manuscript.

3.2 Commentary on *Moving Toward Home*

Uilleann pipes are usually tuned in the key of D, and traditional tunes - when transcribed, are written down in the key of D or G.¹¹⁷ *Moving Toward Home*, however, begins without a pitch centre and moves through brief tonicisations of pitches throughout the piece before ending firmly in the key of D. The harmonies travel from relatively unmoored to securely anchored.

The composition employs harmonies and musical gestures which lie outside of the vernacular of Irish traditional music. This necessitated working with a piper who is not only able to read music, but one who was open to the idea of playing non-idiomatic music. After attending many Irish traditional music sessions and asking many musicians for references, I found a willing collaborator in Éamonn Galldubh, an excellent piper who reads music and is interested in exploring new compositions for the pipes.¹¹⁸

During workshop sessions with Galldubh, he would occasionally proclaim that something in *Moving Toward Home* is *impossible* to play on the pipes; but then, after four or five tries, he'd have mastered the passage. I asked him if writing a piece which was not in the key of D would pose any particular problem, and he responded that he enjoyed playing chromatic passages. Once, while reading through a chromatic section I had written for him, he happily exclaimed, 'Ooh, I get to play all these notes I don't usually get to play!'

¹¹⁷ Kevin McCann, 'Memories of Séamus Ennis', *Treoir*, 50, (2018), p. 37.

See Appendix B for examples of notated Irish tunes.

¹¹⁸ Pipers interviewed include Joe McHugh, Terry Moylan, Néillidh Mulligan.

Several things were taken into consideration in the composition of *Moving Toward Home*: the balance of the ensemble; how little or how much to specifically notate dynamics, articulations, and ornaments; the influence of the characteristics of traditional music on the western orchestral instruments and vice versa; and whether or not and in what ways to use each of the three elements - the chanter, the regulators, and the drones. Each of these will be discussed in turn below.

As mentioned in Chapter 3.1, Doyle's *Ceol Sidhe* demonstrates a successful balance of the uilleann pipes in a small ensemble. However, the instrumentation does not include western orchestral instruments. In composing *Moving Toward Home*, I was concerned that the uilleann pipes would be overpowered by the other instruments. This is addressed by assigning a lower dynamic to the clarinet, cello, and bassoon in sections where the uilleann pipes are to play a dominant line (for example, bars 111-20).

The desire to allow the distinguishing sound of the chanter to stand out from the ensemble informed choices in instrumentation for *Moving Toward Home*. I wanted to pair the chanter with a wind instrument of similar register. The clarinet was chosen for the ensemble instead of an oboe, because the timbre of the oboe is more similar to the uilleann pipes chanter.

The cello and bassoon were chosen for two reasons. First, they act as a pair of bass register voices set against the pairing of the treble register clarinet and chanter. Second, the ability to play long notes in the bass register offered their incorporation as a drone substitute. This aspect will be discussed later in this chapter.

In *Moving Toward Home*, the clarinet, bassoon, and cello incorporate techniques and gestures idiomatic to the pipes, demonstrating an exchange of cultural influence between two genres. Slides, glissandi, and grace notes which are typical in traditional uilleann pipe music are here assigned to the other ensemble parts. Reciprocally, the music written for the uilleann pipes moves beyond idiom. The melodic line of the chanter, for example, is highly chromatic and not rooted in the key of D, and features phrases of irregular length and syncopated accents. Atypical of Irish traditional music, the longer legato lines often feature tritones as structural intervals, and the grace notes throughout the piece are usually at an uncustomary interval of a tritone.

As noted in Chapter 3.1, the uilleann pipes have a much narrower range of dynamics than most western orchestral instruments, and articulation and embellishments are often added extemporaneously by the piper.¹¹⁹ Despite this, the music for the uilleann pipes in *Moving Toward Home* is liberally notated with a wide range of such markings. These markings are not to be taken as absolute, so much as they are to guide the player in the mood and expression expected. In addition, textual section headings are used to further advise the ensemble. With awareness of the great variety in styles of piping, the expression markings and textual headings are included in order to shape the performance.

In Irish traditional music, the ornamentation often occurs without premeditation, almost as a reflex. Sometimes this is due to an adherence to the idiom, and at other times it is because a repeated note or an certain interval leap would be impossible to play without the ornament.¹²⁰ In composing *Moving Toward Home*, the question arose as to whether or

¹¹⁹ Pat Mitchell, *The Dance Music of Séamus Ennis* (Dublin: Na Píobaoirí Uilleann, 2007) p. xxi.

¹²⁰ *Ibid*, p. xxii.

not to specifically notate grace notes in the uilleann pipe part (the reader will recall that Volans had largely left the score to *Gol Na mBan San Ár* unembellished). Understanding that I could not predict with precision whether or when ornaments would be played, the decision was made to notate specific grace notes. I sought to control, when possible, the pitch content of the piece as a whole; the grace notes often perform a harmonic function. The grace notes notated in bars 25 and 26, for example, reflect and support harmonies reliant upon fourth chords.

The notation of the grace notes in the uilleann pipes part is reflected in the imitative gestures written for the rest of the ensemble. The grace notes at an interval of a tritone appear in all parts, for example. In this way, the ornamentation in the clarinet, bassoon, and cello serve to support harmonies as well as reflect influence of the traditional idiom on the western art music realm.

Close work with an experienced piper while composing *Moving Toward Home* allowed for experimentation to see what would be playable and what would be impractical. I learned, for example, that sudden stops in the upper register of the chanter are extremely difficult to play, especially when it is necessary to play the chanter ‘off the knee’. Galldubh found the following passage from the first draft of *Moving Toward Home* unplayable:

Fig. 30 Impractical passage, *Moving Toward Home* draft

The image shows a musical score for two parts: Chanter and Regulators. The time signature is 2/4. The Chanter part is written in a treble clef and consists of two measures. The first measure contains a quarter note G4 with a grace note F#4, followed by a quarter note A4 with a grace note G4, and a quarter note B4 with a grace note A4. The second measure contains a quarter note C5 with a grace note B4, followed by a quarter note D5 with a grace note C5, and a quarter note E5 with a grace note D5. The Regulators part is written in a treble clef and consists of two measures. The first measure contains a quarter note G3, a quarter note A3, and a quarter note B3. The second measure contains a quarter note C4, a quarter note D4, and a quarter note E4.

It is interesting to note that the opening and often repeated gesture of Volans's *Gol Na mBan San Ár* sets the same pitch with the same impractical rests (see Figure 24).

Unsurprisingly then, the repeated F5 in Volans's piece was played by Power at the premiere without rests between, and preceded by a whole step grace note. In correspondence with Power, I learned that 'any assumptions you make about the uilleann pipes and the way they work coming from a classical music perspective are likely to be wrong.'¹²¹ This confirmed the need to work closely with a piper during the compositional process.

To make my impractical passage playable, Galldubh suggested that I replace the quavers followed by semiquaver rests with dotted quavers notes, and transpose the line down an octave. The result is shown in Figure 31.

Fig. 31 *Moving Toward Home*, bars 84-5

The image shows two staves of musical notation. The top staff is labeled 'UP Chanter' and the bottom staff is labeled 'UP Regulators'. Both staves are in 2/4 time and use treble clefs. The UP Chanter staff contains a melodic line with dotted quavers and eighth notes. The UP Regulators staff contains a simpler melodic line with dotted quavers and eighth notes.

When considering the three elements of the 'union pipes', I elected not to use the drones in my composition. The entrance and exit of the drones would not be subtle, and their volume is not easily controlled. Instead of using the uilleann pipe drones, the bassoon

¹²¹ David Power, 'Re: New From Entry. Contact Form.' Message to the author. Email. 17 October 2018.

and cello imitate and expand on the concept of drone. Rather than being restricted to the single pitch D, the cello and bassoon play long notes on a variety of pitches, and often ‘drone’ a whole step apart, changing the idea of a drone from a pitch to an interval (for example, bars 1-10). A wide range of dynamics are used in the ‘imitation’ drones, in contrast with the relatively static dynamic level available to the uilleann pipes. The idea of the drone as a long held note is altered as well; repeated notes vary the texture while maintaining the pedal notes (for example, bars 94-6).

The shifting drone notes in *Moving Toward Home* allow for expansion of the harmonic realm of the piece beyond that which is idiomatic to the pipes. In fact, the piece does not have a firm pitch centre until the last sixteen bars, when it finally settles on D. Rather than coming from a scale structure, the harmonies and pitches at the start of the piece are generated from a musical cell of a fourth and a semitone. Such a deviation from the expected harmonic realm of the uilleann pipes necessarily requires playing of chromatic notes which, while available, are not typically used in traditional uilleann pipe music. After bar 104 the harmonies move from quartal-based to tertiary, with fleeting tonicisations until the final phrases and cadence in D major.

The regulators of the pipes are also used in a non-idiomatic manner. In traditional uilleann pipe music, the regulators serve to reinforce and support harmonies diatonic to the key of the pipes. The layout of the regulators offers ready access for the side of the right hand to depress diatonic chord tones. Rarely are single notes, rather than chords, played on the regulators. In *Moving Toward Home*, however, the regulators are not used to fill out traditional harmonies, and often require an alternate manner of depression. The use of

fingers to depress individual keys of the regulators is at times necessary, a marked deviation from custom. Playing the regulators in this way effects the notes composed for the chanter; notes that require the right hand on the chanter are not available.

In some instances the regulators are used to support and fill out fourth chords (in bar 82, for example) or A minor chords in a temporary tonicisation (for example, in bars 104-9). At other times, the pitches played by the regulators do not function as chord tones at all, but rather participate in a line of contrapuntal melody featuring dissonant intervals, as it is set in syncopation against the voice leading in the chanter (for example, bars 111-9).

This novel use of the regulators presents a performance challenge to Galldubh, as I'm sure it will to other pipers as well. As tricky chromatic runs on the chanter can be mastered, it seemed probable that contrapuntal music written for chanter and regulators are appropriate. Galldubh has assured me that *Moving Toward Home* is playable, if somewhat difficult.

In Chapter 3.1, the question was posed as to whether it is appropriate to compose with a specific uilleann piper in mind or to compose with the intention of broadening the repertoire as a whole. The answer to that will be personal to each composer, and dependent on the situation at hand. My collaboration with Éamonn Galldubh was invaluable in the process of writing *Moving Toward Home*, as were interviews, emails, and listening sessions with other pipers; however, it is my intention that the composition be accessible to any piper. The liberal use of articulation, phrase, and dynamic markings, as well as the suggestive section titles, serve to convey the expression and mood desired throughout the

piece, with the understanding that this expression will vary as styles and technique of the performers vary.

Through deviation from idiom with angular melodic lines, varying tonicisations, original contrapuntal use of the regulators, and a new interpretation and reassignment of the drones, *Moving Toward Home* offers a work for uilleann pipes which anticipates further exploration of new contexts for the instrument.

4

Introduction to Commentary on *Under a Cobalt Sky*

Under a Cobalt Sky is composed for clarinet, violin, and two Persian instruments, the *tar* and the *santoor*.¹²² The idea of writing for such an ensemble came to me after I was invited to attend a private rehearsal of the band named Tulca, a group of four musicians playing the above mentioned instruments.¹²³ Paul Roe, an academic and the clarinetist in Tulca, had invited me to sit in on their rehearsal and improvisation session. That took place in June 2018 at the Royal Irish Academy of Music.

In preparation for the session, my preliminary research on the *santoor*, the *tar*, and Persian classical music in general included listening to performances by reputed musicians such as Arjang Seyfizadeh's *Tali'e*, Alizadeh Hossein's *Raz-e No*, and Faramarz Payvar's *30 Chaharmezra*; and reading authoritative texts, including *The Dastgāh Concept in Persian Music* and 'Form and Style in Persian Music' by Hormoz Farhat, *The Art of Persian Music* by Jean During, 'The Dastgah System' by Ali Zomorodi, *Classical Persian Music: an Introduction* and 'Contemporary Art Music in Persia' by Ella Zonis, 'Musical Values and Social Values: Symbols in Iran' by Bruno Nettl, and 'A Database for Persian Music' by Paymen Heydarian.^{124, 125}

¹²² Because the word 'santoor' is a transliteration from the original Farsi word, سنتور, variations in spelling will occur (santūr, santour, santoor). Not to be confused with other instruments of similar construct and similar name, the word 'santoor' here indicates the Persian instrument.

¹²³ Tulca is a Dublin-based band, and its members are Paul Roe, clarinet; Ultan O'Brien, violin; Shahab Coche, *santoor*; and Shayan Coche, *tar*.

¹²⁴ Arjang Seyfizadeh, *Tali'e (Break of Dawn)* (2012). From the album *Beyond the Night's Veil*. Vesal Art Music. Kurdantv. CD. Recording; Alizadeh Hossein, *Raz-e No (Novel Mystery)* (1991). Mahoor Institute of Culture and Art. Recording. Web. <https://www.youtube.com/watch?v=W39g31EaVVU>. Accessed 28 June 2018; Faramarz Payvar, *30 Chaharmezrab* (2006). Chaharbagh Bang Records. CD. Album.

¹²⁵ Hormoz Farhat, *The Dastgāh Concept in Persian Music* (Cambridge: Cambridge University Press, 1990); Hormoz Farhat, 'Form and Style in Persian Music', *The World of Music*, 20(2), (1978) pp. 109-18;

The mechanics, timbre and pitch ranges of the santoor and tar were studied, and a rudimentary understanding of Persian classical music was gained. This early acquaintance with the genre would later be deepened through personal observation of and interviews with Persian musicians, Shahab and Shayan Coohe, as well as continued research.

Further research led to several considerations for composing for ensembles which include santoor and tar. A balance in dynamics and texture is sought, with the understanding that both instruments have a quick decay in notes produced, and the tar sounds at a much lower volume than both the santoor and western orchestral instruments. Reference to idioms of Persian classical music and its form of composition allow for a reciprocal influence of the two genres. In an ensemble tuned to equal temperament, slides and bends have the effect of incorporating a microtonal element to the melodies.

Jean During, et al, *The Art of Persian Music* (Washington, DC: Mage Publishers, 1991);
 Ali Zomorodi, 'The Dastgah System', *InternetArchive Wayback Machine*, Duke University, April 1996. Web. Accessed 25 September 2018;
 Ella Zonis, *Classical Persian Music: an Introduction* (Cambridge, Massachusetts: Harvard University Press, 1973);
 Ella Zonis, 'Contemporary Art Music in Persia', *The Musical Quarterly*, 51(4), (1965), pp. 636–648;
 Bruno Nettl, 'Musical Values and Social Values: Symbols in Iran,' *Asian Music*, 12, (1980) pp. 129–148;
 Peyman Haydarian and Joshua D. Rice, 'A Database for Persian Music', *Researchgate*. 2005. Web. Accessed 20 July 2018.

4.1 The Tar and the Santoor

My introduction to Persian music came about through investigation of the santoor, a dulcimer-like instrument, and the tar, a long-necked lute.

Fig. 32 A Persian santoor with mezbabs ¹²⁶



The santoor is very like a hammered dulcimer. It is trapezoid-shaped, with nine (or less often eleven) courses of four strings. Two hardwood bridges on either side of the instrument divide the strings into three sections, called ‘yellow’, ‘white’, and ‘behind the bridge’. The yellow strings are the lowest sounding strings, the white strings sound one octave higher than the yellow, and the behind the bridge strings sound one octave higher

¹²⁶ Photo by the Isfahan Music Museum.
<http://www.isfahanmusicmuseum.com/home/images/rabab/santoor2.jpg>. Accessed 29 August 2020.

than the white strings. The white strings are often tuned from E4 to F5, with the yellow and behind the bridge strings sounding an octave lower and higher; however tuning can easily be modified to accommodate different pitch ranges and different intervals within the steps.¹²⁷ This tuning, however, must occur prior to performance. In addition, varying sizes of santours allow for a wider variety of tuning.

The strings of the santoor are struck with feather-weight hammers called *mezrabs*. The ends of the *mezrabs* are often covered in cotton or other light cloth.

Fig. 33 A Persian tar¹²⁸



¹²⁷ Ram Chandrakausika51, 'Introducing the Persian Santur', *Saxion Folkways, A World's Heritage of Native Music RSS* (2014).

¹²⁸ Photo by Music for Wexford. musicforwexford.ie/2018/07/recital-of-persian-music-in-st-iberius. Accessed 28 August 2020.

The tar, developed in Persia in the mid eighteenth century, has a double-bowl body which is made of mulberry wood with a lamb skin membrane covering the top. In this way it resembles a banjo, a lute with a membrane stretched over the sound body and strings which are plucked with a plectrum. The neck has twenty-eight movable frets and three courses of double gauge strings. The strings of each of the three courses are tuned in unison, and the courses are typically tuned at a fifth and an octave, C-G-C for instance. Tuned in this way, the range of the instrument is C3 to A5.¹²⁹

Both the tar and the santoor have an almost immediate decay of sound after the notes are struck or plucked. Lengthening of the pitches can occur only by means of tremolo, or repeating the pitch rapidly. The santoor has a bright metallic sound, capable of cutting through various instrumentations, whereas the tar has much softer volume than many other instruments.

The santoor, in comparison with the tar, clarinet, and violin, has a limited range of pitches, as chromatic notes are possible only by means of pre-tuning the instrument. The santoor is incapable of bends or slides, which are idiomatic to the other three instruments.

The vastness and diversity of subsets of Persian culture allow for a large body of folk music of great variety, and this music is classified into two discreet types: rural folk music and urban art music. The tar and the santoor are instruments typically used in both aspects of traditional Persian music.¹³⁰

¹²⁹ Ferina Saati Khosroshahi, et al, 'Modal Analysis of the Persian Tar: Finite Element Modeling and Experimental Investigation', *DAGA 2016 Aachen*, (2016) pp. 1298-9.

¹³⁰ Persian music has influenced various musical cultures across central Asia, the Middle East, north Africa, and southern Europe, so discussion of the genre may extended to a wide range of cultures.

Hormoz Farhat maintains that rural folk music and urban art music have little in common and that they are not influenced by one another. In *The Dastgāh Concept in Persian Music*, he distinguishes the two. About rural folk music, he states that ‘No definitive study of Persian folk music has ever been made as the sheer scope of such a task makes it forbidding’. In contrast, he describes urban art music as ‘a tradition within the domain of the memory of a limited number of musicians’.¹³¹ Bruno Nettl describes the urban art music as a genre accessible and understood by the social elite, with the majority of Persians regarding it as a ‘musical representation of a traditional past’.¹³² Jean During, co-author of *The Art of Persian Music*, offers a less rigid categorisation, stating that ‘regional music is equally traditional, ... while *sonnati* music [i.e. urban art music] contains many regional elements, and cannot be separated from its popular roots’.¹³³

Discussion here will focus on urban art music, hereafter referred to as Persian classical music. A basic understanding of the construction of melodies in Persian classical music is necessary in order to understand the original context of the tar and the santoor and to use that understanding as a starting point for expansion of the repertoire through the composition of new works.

The traditional melodic repertoire of Persian classical music is called the *radif* (literally, a row or series), which is a collection of melodies preserved through oral tradition across many generations.¹³⁴ Variations in the *radif* exist, as masters may add new

Peyman Heydarian and Joshua D. Rice, ‘A Database for Persian Music’, *Researchgate* (2005) p. 1.

¹³¹ Hormoz Farhat, *The Dastgāh Concept in Persian Music* (Cambridge: Cambridge University Press, 1990) pp. 1-2.

¹³² Bruno Nettl, ‘Musical Values and Social Values: Symbols in Iran,’ *Asian Music*, 12, (1980) pp. 131-2.

¹³³ Jean During et al., *The Art of Persian Music* (Washington, DC: Mage Publishers, 1991) p. 19.

¹³⁴ Laudan Nooshin, ‘The Song of the Nightingale: Processes of Improvisation in Dastgāh Segāh (Iranian Classical Music)’, *British Journal of Ethnomusicology*, 7, (1998) p. 71.

melodies or reshape existing melodies, which are then passed down to their students. Occasionally a version of radif will bear the master's name. The melodies of the radif can be further broken down into melodic fragments, called *gushe*. The performance of the melodies varies greatly from one performance to another and from one musician to another as extemporaneous embellishments are added.¹³⁵ Nettl claims the radif is essentially 'not really music', because once learned it serves as the basis for composing and, more importantly, for improvising.¹³⁶ Ella Zonis, author of *Classical Persian Music: an Introduction*, addresses the 'problem of analysing improvised music' with the suggestion: '... set aside the complete performance and study the material used as a basis for improvisation. In other words, once the model for improvisation has been clarified, the way the model is used in performance can be investigated.'¹³⁷ The radif is the material upon which improvisation is based.

The melodies of the radif are organised into tonal spaces, called *dastgāhs*. The present-day system recognises twelve groupings of dastgāhs, which represent more than sixty forms.¹³⁸ Common dastagāh tunings are shown in Figure 34.

Dastgāhs are like modes in that specified pitches and intervals define the dastgāh, which in turn govern the melodic choices, but they differ from modes in that they are not based on or confined by an octave.¹³⁹

¹³⁵ Hormoz Farhat, *The Dastgāh Concept in Persian Music* (Cambridge: Cambridge University Press, 1990) p. 21.

¹³⁶ Bruno Nettl, 'Musical Values and Social Values: Symbols in Iran,' *Asian Music*, 12, (1980) p. 132.

¹³⁷ Ella Zonis, *Classical Persian Music: An Introduction* (Cambridge, Massachusetts: Harvard University Press, 1973), p. 42.

¹³⁸ Hormoz Farhat, *The Dastgāh Concept in Persian Music* (Cambridge: Cambridge University Press, 1990) p. 19.


¹³⁹ Hormoz Farhat, 'Form and Style in Persian Music', *The World of Music*, 20, (1978) p. 110.

Fig. 34 Common dastgāh tunings¹⁴⁰


Shur




Homāyun



Bayāt-e Esfehān



Segāh




Chāhārgāh



Māhur / RāstPanjgāh



Navā



¹⁴⁰ Peyman Heydarian and Joshua D. Rice, 'A Database for Persian Music', *Researchgate*. (2005).

Another difference from modes is that *dastgāhs* are *not* used to generate harmony.¹⁴¹ Persian classical music is of a primarily melodic nature, one which does not use a system of chords or vertical simultaneities to support the melodies. It does not rely upon polyphony, but on the many modal possibilities inherent in the combination of *gushe*, which are highly embellished in performance.¹⁴² Therefore, to compose a polyphonic and harmonic work for *tar* and *santoor* is to deviate from the standards of Persian classical music.

Three separate theories about Persian modes and ‘scales’ have been proposed since the early 20th century, two of which divide the octave into equidistant intervals. The first, put forth by composer Ali-Naqi Vaziri, suggests a 24-note-quarter-tone scale as the basis for Persian music; the second, proposed by physicist Mehdi Barkešli, suggests a 22-note-quarter-tone-scale.¹⁴³ The 24-quarter-tone scale, developed by Vaziri in the 1920s, came after his exposure to European classical music and its system of equal temperament. Vaziri’s scale has contributed to the now commonly used symbols of *koron*, to lower a quarter-tone, and *sori*, to raise a quarter-tone.¹⁴⁴ Recognising that equal temperament allows for cultivation of a harmonic system, Vaziri sought to apply this concept in an effort to develop a harmonic practice in Persian music.¹⁴⁵ The Vaziri theory has been widely used

¹⁴¹ Hormoz Farhat, ‘Form and Style in Persian Music’, *The World of Music*, 20, (1978) p. 110..

¹⁴² Hormoz Farhat, *The Dastgāh Concept in Persian Music* (Cambridge: Cambridge University Press, 1990) p.2.

¹⁴³ Hormoz Farhat, *The Dastgāh Concept in Persian Music* (Cambridge: Cambridge University Press, 1990) p.10-15.

¹⁴⁴ *Ibid*, p. 9.

¹⁴⁵ *Ibid*, pp. 10-15.

throughout the twentieth century; however, both of the systems of equidistant intervals were deemed irrelevant by Farhat.¹⁴⁶

Finding division of the scale into exact intervals to ‘suffer from a tendency to accommodate certain western concepts’, Farhat proposed a third theory in 1990, which is based on flexible intervals. Unlike the theories proposing equidistant intervals, Farhat’s theory avoids any use of the term ‘scale’. In his theory, the whole-tone and the semitone are relatively stable, with the whole-tone being slightly larger than the equal temperament whole-tone, and the semitone significantly smaller than the equal temperament semitone. The theory is supported by the argument that Middle Eastern instruments are *incapable* of producing intervals of such precision.¹⁴⁷ It can be assumed, then, that Farhat’s recently developed theory supports and seeks to preserve a system of melodic music, one without polyphony or vertical harmonic structures.

Because the radif is learned by rote and further embellished or reshaped according to tradition and experience, composition in Persian classical music never developed as an art form separate from performance. The music, thus, depends on both composition - through the dedicated memorisation and internalisation of traditional melodies, *and* improvisation - an integral part of the performance and expression of the melodies.¹⁴⁸

Due to the elite nature of Persian classical music, as well as its improvisational component, it has proven difficult to discover contemporary art music works composed for

¹⁴⁶ Peyman Heydarian and Joshua D. Rice, ‘A Database for Persian Music’, *Researchgate*, Sect. 1.1, (2005).

¹⁴⁷ Hormoz Farhat, *The Dastgāh Concept in Persian Music* (Cambridge: Cambridge University Press, 1990) p.16.

¹⁴⁸ Hormoz Farhat, *The Dastgāh Concept in Persian Music* (Cambridge: Cambridge University Press, 1990)pp. 2 and 8.

tar or santoor and western orchestral instruments. Both the tar and santoor have been incorporated into the progressive rock opera, *Jeff Wayne's Musical Version of the War of the World*.¹⁴⁹ Despite the fact that the opera was widely consumed, ranking sixteenth on the 1978 Billboard chart, the impact of the incorporation is mitigated, because both instruments are obscured by dense textures and electronics which mimic their timbres.¹⁵⁰ Without reading the credits in the liner notes, one might not detect that the tar and the santoor are part of the ensemble.

A rare example of a western art music composition which incorporates a Persian instrument into an ensemble with western orchestral instruments is found in *Concertino for Santoor and Orchestra*, written in 1959 by Hossein Dehlavi and Faramarz Payvar.¹⁵¹ The work is notable for its polyphonic support of a melody associated with Persian classical music. The Tehran Times writes that Dehlavi 'made strenuous efforts to adapt melodies in Iranian music for orchestral performances'.¹⁵² While the three movement work is a stunning showcase of the santoor, in which the soloist plays melodies based on dastgāhs, these melodies are supported by harmonies which are largely built on idioms of neo-classical western art music. In the third and final movement, the Persian melody is

¹⁴⁹ Jeff Wayne, *Horsell and the Common Heat Ray* from the album *Jeff Wayne's Musical Version of the War of the Worlds* (1978). Columbia/CBS Records. CD. Recording.

¹⁵⁰ The Independent. 'Playlist: The Best 20 Albums from 1978'. 28 June 2018. <https://www.independent.co.uk/arts-entertainment/music/best-albums-1978-big-star-bruce-springsteen-rolling-stones-elvis-costelloi-a8419476.html>. Web. Accessed 30 June 2018.

¹⁵¹ Houssein Dehlavi and Faramarz Payvar, *Concertino for Santur and Orchestra* (1959). Performed by Monica Parisa-Rabii and the Metropolitan Youth Symphony Orchestra of Portland, Oregon. Video recording. Published 24 October 2010. <https://www.youtube.com/watch?v=EUPW67aclo0>. Web. Accessed 21 June 2018.

¹⁵² Tehran Times, "'Sabokbal" composer Houssein Dehlavi passes away at 92'. 15 October 2019. <https://www.tehrantimes.com/news/441199/Sabokbal-composer-Hossein-Dehlavi-passes-away-at-92>. Web. Accessed 20 December 2019.

momentarily echoed by the orchestra; however, there is little else in the way of cultural exchange between the soloist and the orchestra.

Shahab Coohe, an Iranian-born santoor player and member of Dublin-based bands Tulca and Nava, integrates improvisation into his compositions for tar, santoor, and western instruments. He explains his method of composing for the band Nava:

Whenever I start to compose for Nava, it's not that I sit down and decide to compose for the band. Because the way we compose, it's mostly teamwork, so we start to have a team together and we start to complete it all together, adding things. Each person would add a nice thing and we complete a piece together. So I might compose something and it would be my tune, but it's mostly a teamwork, and we all work together.¹⁵³

Combined influences of Irish traditional and Persian classical music are evident in the music performed by the band Nava (meaning 'nice sound'), which explores 'the relationship between the ancient musical cultures of Ireland and Persia'.^{154, 155} In an interview discussing Nava's recently released recording, *Tapestry*, Coohe relates his immediate grasp of the similarities between the two genres, which he realised shortly after he and his brother, Shayan Coohe, moved to Ireland from Iran:

Since the first day we came to Ireland, I heard Irish music, I immediately noticed the similarities and the similar things with Iranian music and Irish music. ... I will start to explain that the only difference that I can say is the concept of Persian music and Irish music, it is a bit different, because we have more freedom in Persian music. So we would improvise more and we wouldn't play the same thing many times. But in Irish music you have one theme and one tune, and we keep repeating it. But the similarities

¹⁵³ Nava the Band, 'The Making of Tapestry', *Third Wave Media*. Video. Transcribed by the author. Minutes 6:24 -6:54, (2017). <https://www.youtube.com/watch?v=lybHuvT5cG8>. Web. Accessed 20 June 2018.

¹⁵⁴ Shahab Coohey, 'Re: meaning of Nava.' Message to author. Email. 7 January 2019.

¹⁵⁵ Nava the Band, 'About', *Third Wave Media*. <http://www.navatheband.com/>. Web. Accessed 20 June 2018.

are the melodies and the rhythms. And how we repeat one tune in Irish music and in Persian music are very similar, so it shan't be 'repeat one tune'. We try to [vary] it and add a little thing to it, and try to make it more beautiful and more exciting as we play a tune.¹⁵⁶

Evident in Coohe's explanation, as well as the music performed by Nava, is the notion that the combination of Irish traditional and Persian classical influences produces music which is equal parts composition and improvisation.

In a personal interview with Coohe, he stated that it is not common practice for either him or his brother, Shayan Coohe, to incorporate microtones, which are a feature of Persian classical music, into ensembles with western orchestral instruments.^{157, 158} He described two extended techniques which he enjoys using quite a bit and which are not idiomatic to Persian classical music, implying that traditional Persian musicians may not like that he uses these techniques. The first, natural harmonics, is a straightforward technique, often used in western art music. The second is his own innovation: he turns the mezbab upside-down and strums a group of strings with the wooden end of the mezbab.

The music performed by the bands Tulca and Nava is played in equal temperament tuning. This directly opposes Farhat's argument that Middle Eastern instruments are incapable of playing precise intervals. A compromise between the seemingly disparate realms of Persian classical music and western art music may be found in Dehlavi's *Concertino*, in which microtones in the horizontal sit atop the relative accessibility of an

¹⁵⁶ Nava the Band, 'The Making of Tapestry', *Third Wave Media*. Video. Transcribed by the author. Minutes 1:33 - 2:33, (2017) <https://www.youtube.com/watch?v=lybHuvT5cG8>. Web. Accessed 20 June 2018.

¹⁵⁷ Shayan Coohe is also a member of both Tulca and Nava.

¹⁵⁸ Shahab Coohe, personal interview. 31 July 2018.

equal-tempered vertical. Composed especially for the members of the band Tulca, *Under a Cobalt Sky* is also composed for an ensemble tuned to equal temperament. Slides and bends are featured throughout the composition, and the resultant microtones participate in the horizontal realm of the work.

4.2 Commentary on *Under a Cobalt Sky*

Under a Cobalt Sky is a work for two western orchestral instruments, the clarinet and the violin, and two Persian instruments, the santoor and the tar. A cultural exchange unfolds between the two genres through timbral imitation, extended technique, and harmonic language and development.

It was written specifically for the band Tulca. Members Shahab Coohe (santoor player) and Shayan Coohe (tar player) are both skilled music readers. The work was composed with this fact in mind.

Relative dynamics are used throughout the piece to address balance within the ensemble: the dynamic notations for the tar are louder than the upper three instruments, in order to accommodate for the fact that it is a softer sounding instrument.

As noted in Chapter 4.1, sounds played on the tar and the santoor have an almost immediate decay. Tremolo is used throughout the piece to simulate longer held pitches, in imitation of the clarinet and the violin. Likewise, pizzicato and staccato notes in the violin and clarinet imitate the decay of the tar and santoor.

An extended technique is used to sound the first notes played by the santoor in *Under a Cobalt Sky*. This technique was described to me by Shahab Coohe, and it is not used in the performance of Persian classical music.¹⁵⁹ The symbol above the dyad in the first bar indicates that all pitches from D to A are to be struck as a rolled chord, using the

¹⁵⁹ Shahab Coohe, personal interview. 31 July 2018.

wooden end of the mezzrab, not the cotton-covered end normally used to hammer the strings. The use of the wooden end of the mezzrab produces a loud and dramatic sound, and the decay is slightly longer than that of hammered notes. The softer dynamic indicated in the next bar is not possible using this technique, and the chord, this time rolled down from A to D, is to be struck using the thumbnail.

Fig. 35 *Under a Cobalt Sky*, bars 1-7

The musical score for Figure 35 consists of four staves: Clarinet in Bb, Violin, Santoor 1, and Tar. The music is in 4/4 time with a key signature of one sharp (F#). The tempo is marked 'Impassioned' with a quarter note equal to 40. The Clarinet and Violin parts include 'extremely slow slide' markings. Dynamics range from fortissimo (ff) to piano (p). The Tar part features a series of chords with dynamics from fortissimo (fff) to piano (p).

In bars 10-24, the texture is thin in order to introduce the santoor and tar and to allow the listener to appreciate their timbre. The E Phrygian mode is introduced with the oscillating E-F semitone. While the Phrygian mode is used rather infrequently in western art music, its characteristic half step between the first and second degrees is similar to the *Shur*, the dastgāh which is most often played in Persian classical music.¹⁶⁰ The *Shur* begins with an interval smaller than a whole tone.¹⁶¹ This is followed by natural harmonics played by the santoor and tar, a second technique which is non-idiomatic.¹⁶² Thus, within the first

¹⁶⁰ Ella Zonis, *Classical Persian Music: An Introduction* (Cambridge, Massachusetts: Harvard University Press, 1973), p.66.

¹⁶¹ See Figure 34 for an illustration of the dastgāhs, including the *Shur*.

¹⁶² Shahab Coohé, personal interview. 31 July 2018.

twenty-four bars of *Under a Cobalt Sky*, the santoor and tar play music which both demonstrates and expands on the sound typically heard from the instruments.

As Persian classical music is melodic, and not harmonic, it is not especially common to roll chords on the santoor or the tar. Dyads and chords are indeed played on the instruments in the performance of Persian classical music, but these act as accents within a melodic line, not as generators of harmony. Throughout *Under a Cobalt Sky*, the santoor and tar participate in the generation of harmony by means of dyads and struck or rolled chords, as well as arpeggiated chords. This differs from the role of the santoor in Dehlavi's *Concertino for Santoor and Orchestra*, in which the santoor is supported by, but does not participate in the generation of, harmony.

As with the music of the bands Tulca and Nava, the concept of a pre-existent base tune which is embellished and varied is a foundational aspect of *Under a Cobalt Sky*; however, there are differences in implementation of the concept. Whereas improvisation is an integral part of the creation and performance of the bands' music, *Under a Cobalt Sky* is precisely notated. Further differentiation lies in the fact that the base tune of *Under a Cobalt Sky* is fragmented, and the fragments are reordered.

The base tune incorporated into *Under a Cobalt Sky* was conceived before beginning to compose the piece. The tune was then split into two: a nucleus tune and a subordinate tune, and so the relationship between the two tunes pre-exists the composition. The subordinate tune is an outgrowth of the nucleus tune, but in *Under a Cobalt Sky* it is used to foreshadow the first statement of the nucleus tune.

The tunes are not presented at the start of the piece. Instead, the nucleus tune is embedded in the centre, in bars 63-9, and the subordinate tune appears before the nucleus tune in bars 24-9. The subordinate tune is generated from the rhythmic gesture in the second part of the nucleus tune, found in bars 66 and 69 (see Figures 36 and 37).

Fig. 36 *Under a Cobalt Sky*, bars 62-9, initial statement of the nucleus tune

The musical score for Figure 36 is presented in two systems. The first system, covering bars 62-65, features a B♭ Clarinet part starting with a triplet of eighth notes marked *mp*, followed by a melodic line with a slur and a fermata. The Violin part mirrors this with a triplet and a melodic line. The Saxophone and Trombone parts enter in bar 63 with a rhythmic accompaniment of eighth notes, marked *p* and *mp* respectively. A box labeled "B Dreamily ♩=72" is positioned above the first staff. The second system, covering bars 66-69, continues the melodic and rhythmic development. The B♭ Clarinet part has a melodic line marked *mp*. The Violin part has a melodic line with dynamics *mf* and *p*, and a slur. The Saxophone and Trombone parts continue their rhythmic accompaniment. The score concludes with a double bar line and repeat signs in the final bars.

Fig. 37 *Under a Cobalt Sky*, bars 24-9, initial statement of the subordinate tune

The musical score consists of four staves: B♭ Cl., Vln., San., and Tar. The key signature is one sharp (F#) and the time signature is 3/4. The Santoor part (San.) is marked *mp* and the Tar part (Tar) is marked *mf*. The B♭ Cl. part is marked *p sub.* in bar 27. The Tar part includes a *loco* section and a *rit* marking in bar 27. The score is divided into two systems, with the first system covering bars 24-26 and the second system covering bars 27-29.

The initial statement of the subordinate tune is set in E Phrygian, and the first statement of the nucleus tune is in E minor. Alternation between F natural and F sharp in the piece suggests a flexibility of the interval between the first and second scale degrees (see bar 27, in which the santoor F natural is followed by an F sharp in the tar). This is reinforced when, beginning in bar 46, a C sharp is introduced within a B Phrygian context.

As mentioned in Chapter 4.1, the santoor is tuned prior to performance, and is unable to introduce chromatic notes mid-performance. This effects the role the santoor is able to play in harmonic modulations. In order to allow the santoor to participate in modulating passages, *Under a Cobalt Sky* calls for the santoor player to alternate between two differently tuned santours. Santoor 1 is to be tuned in E Phrygian, with the white

strings sounding D4 to E5. Santoor 2 is to be tuned in B Phrygian, with the white strings sounding A3 to B4. Santoor 1 has an F natural, and Santoor 2 has an F sharp. In bar 34, the santoor player switches from Santoor 1 to Santoor 2 in order to play the second variation of the subordinate tune, which is in B Phrygian.

The many bends and slow slides played by the violin, clarinet, and tar in *Under a Cobalt Sky* imply microtonality; however, this differs from the microtonality found in Persian classical music. In *Under a Cobalt Sky*, both Santoor 1 and 2 are to be tuned in equal-temperament, and the harmonic material of the work is not derived from any dastgāh. As in Dehlavi's *Concertino for Santoor and Orchestra*, the microtones inhabit the horizontal aspect of the piece, while the vertical, harmonic structure is built on intervals derived from an equal-tempered scale. Neither through pre-tuning of the santoor nor the use of *koron* and *sori* symbols are microtones precisely designated; rather, the aleatoric nature of the bends and slides produces a sense of microtonality that may be associated with more timbre than with pitch.

Under a Cobalt Sky places the santoor and the tar in a non-idiomatic context, as they participate in the generation of harmonic material in an ensemble with western orchestral instruments. Expansion of the musical gestures which are not idiomatic to Persian classical music is achieved through the use of extended technique. The timbral gap between the two pairs of instruments is bridged through reciprocal textural imitation: staccato and pizzicato in the clarinet and the violin, and tremolo in the santoor and the tar. This, together with references to traditional musical forms through embellishment of

melodies and the allusion to Shur, allows for a cohesive exchange between pairs of instruments from two different genres.

5 Introduction to Commentary on *Zephyr*

My interest in the *xiao*, a Chinese vertical flute, began while I was in Hong Kong studying the *dizi* (also known as *di*), a Chinese transverse flute. My instructor presented me with a *xiao* as a means to expand the study of Chinese flutes, and I asked what the instrument is called. Unable to find a suitable word in English, he said simply, ‘It is a flute for sitting under a tree.’ The *xiao* produces a delicate, breathy tone of low volume, an apt vehicle for soft melodies of a meditative nature.

Before composing for the *xiao*, I experimented with my collection of *xiaos* of varying sizes (see Figure 38), playing traditional Chinese folk tunes, such as ‘Suzhou Scenes’ and ‘Lady Meng Jiang,’ as well as tunes from other genres, such as Irish traditional and western art music. Playing music not specifically written for the *xiao* expanded my understanding of the capabilities of the instrument. Further experimentation included discovering techniques that may be commonly utilised in other flute genres, but not typically performed on the *xiao*, such as vocalising into the flute, harmonics, and various means of articulation, such as fluttertongue and martellato.

I read authoritative texts on Chinese folk music, *Chinese Music and Orchestration: A Primer on Principles and Practice* by Sin-Yan Shen, *Chinese Music* by Jin Jie, ‘The Influence of Traditional Chinese Music on Professional Instrumental Composition’ by Jiang Jing, ‘Heterophony in Chinese Music’ by Robert T. Mok, and ‘When a Great Nation Emerges: Chinese Music in the World’ by Frederick Lau.¹⁶³

¹⁶³ Sin-Yan Shen, *Chinese Music and Orchestration: A Primer on Principles and Practice* (Chicago: Chinese Music Society of North America, 1991); Jin Jie, *Chinese Music* (New York: Cambridge University Press, 2001); Jiang Jing, ‘The Influence of Traditional Chinese Music on Professional Instrumental Composition’,

Fig. 38 Xiaos of varying sizes ¹⁶⁴



After continued study and exploration of the xiao and further research on Chinese folk music, I composed two pieces in which the instrument plays a prominent role. *Zephyr* is written for xiao, suspended cymbal, and cello, and *Bird Suite*, which is discussed in Chapter 8, is a multi-movement work for xiao, string quartet, and percussion. An additional piece, *Cloud Shadows*, is written for an ensemble of five flutes, including the xiao. *Cloud Shadows* is discussed in Chapter 7.

Neither *Bird Suite* nor *Zephyr* deliberately incorporates aspects of Chinese folk music. The compositions exploit distinguishing characteristics of the xiao, such as its

Asian Music, 22(2) (1991), pp. 83–96; Robert T. Mok, ‘Heterophony in Chinese Music’, *Journal of the International Folk Music Council*, 18 (1966), pp. 14-23; Frederick Lau, ‘When a Great Nation Emerges: Chinese Music in the World’ *China and the West: Music, Representation, and Reception*, edited by Hon-Lun Yang and Michael Saffle, (Ann Arbor: University of Michigan Press) (2017) pp. 265–282.

¹⁶⁴ Photo by the author.

timbre and manner of articulation, and explore new sounds. Nonetheless, it is necessary to understand the original context of the instrument as a point of departure for exploration.

5.1 The Xiao

A xiao is a vertical, end-blown notch flute, usually made of dark brown bamboo. It has six to eight finger holes and no keys. Xiaos have a range of two octaves and are most commonly made in the key of G (D2 being the lowest note), but xiaos in the key of F (with middle C as the lowest note) are also readily available. A bamboo xiao with a D2 fundamental was used throughout the research and composition process.

Fig. 39 Dark bamboo xiao with a D fundamental¹⁶⁵



It has eight finger holes, as opposed to the more common six- or seven-hole xiao, allowing for a greater number of chromatic notes without the use of cross fingering or half-hole fingering. Because the xiao is a narrow flute with a notched, split-edge mouthpiece, it takes considerably more breath to play than transverse flutes, as well as vertical fipple flutes of comparable size, such as the low D tin whistle.

¹⁶⁵ Photo by the author.

Fig. 40 The notched, split-edge mouthpiece of the xiao¹⁶⁶



As with many folk music genres, Chinese folk music is not tuned to equal temperament. Physicist and composer, Sin-Yan Shen, explains:

Chinese music never accepted the equal temperament system even though it was first invented in China. The rejection did not come as a result of a sudden decision, but was a result of infinite numbers of real-life experimentation with music performance. The Chinese musician in all of the temperament oscillation cycles in the centuries always returned to recognition of the just intervals.¹⁶⁷

When playing the xiao, the minor and major thirds and sevenths above the fundamental sound slightly lower than those in equal temperament. Music in temperaments based on just intonation will sound very different when transposed within that temperament, because the intervals are being constantly adjusted to their lowest integral ratio. Playing a tune in B minor on a flute with a D fundamental, for example, will result in a very different tone than playing the B minor tune on a flute with an A fundamental. For this reason, it is not

¹⁶⁶ Photo by the author.

¹⁶⁷ Sin-Yan Shen, *Chinese Music and Orchestration: A Primer on Principles and Practice* (Chicago: Chinese Music Society of North America, 1991), p. 123.

common to play music that is not in the key of the xiao or its relative minor. Chinese music notation is based on a moveable Do solfege system, and one notated melody can be read and played in a number of different keys by switching the xiao.

In Chinese folk music, themes of nature, such as mountains, flowing water, moonlight, or flowers, are not only common, but held as an ideal. Jin Jie, author of *Chinese Music*, writes, ‘Harmony between human beings and nature was the highest goal of the ancient sages. For this reason, Chinese music adopted nature as its first theme,’ and he cites Daoist, Confucian, and Zen philosophies to support this. Jie asserts that most traditional Chinese songs strive to provide examples of harmony between human beings and nature.¹⁶⁸ Contemporary composer, Bright Sheng, states that, ‘Historically, music in China is meant for the performer's self-indulgence and cultivation of his or her spirit, not for the audience.’¹⁶⁹ Introspection would appear to be prized over the display of a public performance.

Chinese folk instruments are solo instruments by tradition. When playing in an ensemble, the instruments play the same tune, but not quite in unison. In his article ‘Heterophony in Chinese Music’, Robert T. Mok asserts that contemporary Chinese folk music in all its forms (including vernacular operas, folk ballads and songs, and instrumental music) is heterophonic.^{170, 171} Monodic melodies are played or sung as a duo or group, but unison performance of the song is not sought. The performers embellish and

¹⁶⁸ Jin Jie, *Chinese Music*. (New York: Cambridge University Press, 2011) pp. 39-48.

¹⁶⁹ Journal staff, ‘An Interview with Bright Sheng’, *The Journal of the International Institute*, 7, Michigan Publishing of the University of Michigan Library (1999).

¹⁷⁰ Mok distinguishes ritual music, or *Ya Yüeh*, from contemporary Chinese folk music, called *Su Yüeh*. He identifies as *Ya Yüeh* as homophonic.

¹⁷¹ Robert T. Mok, ‘Heterophony in Chinese Music’, *Journal of the International Folk Music Council*, 18, (1966) pp. 14-23.

improvise the melody individually. Harmonic intervals between the performers are formed as a result of embellishment or staggering of melodic lines in a call and response type structure. Mok offers the following example of individual embellishment resulting in heterophony:

Fig. 41 Heterophony in Chinese folk music ¹⁷²



While many westerners hear Chinese folk music as pentatonic, it is usually based on one of a number of heptatonic scales.¹⁷³ Sin-Yan Shen, author of *Chinese Music and Orchestration: A Primer on Principles and Practice*, offers a reason for this misconception, stating that ‘the preference of minor third and major sixth masks the semitones, and as a result the scale becomes unclear to the Western ear.’¹⁷⁴ The melody from folk theatrical music of the Shaanxi province shown in Figure 42 illustrates the preference for minor thirds in melodic material.

¹⁷² Robert T. Mok, ‘Heterophony in Chinese Music’, *Journal of the International Folk Music Council*, 18, (1966) p. 20.

¹⁷³ Sin-Yan Shen, *Chinese Music and Orchestration: A Primer on Principles and Practice* (Chicago: Chinese Music Society of North America, 1991), pp. 2-10; and Robert T. Mok, ‘Heterophony in Chinese Music’, *Journal of the International Folk Music Council*, 18, (1966) p. 15 notes.

¹⁷⁴ Sin-Yan Shen, *Chinese Music and Orchestration: A Primer on Principles and Practice* (Chicago: Chinese Music Society of North America, 1991), p. 3.

Fig. 42 Melody from Shaanxi theatrical music ¹⁷⁵



Structural notes in melodies are often the first, fourth, and fifth scale degrees, the equivalent of a fourth chord in western art music (for ex. A-D-E-A), as illustrated in Figure 43.

Fig. 43 ‘Di Hua’ (Flower Riddles) ¹⁷⁶



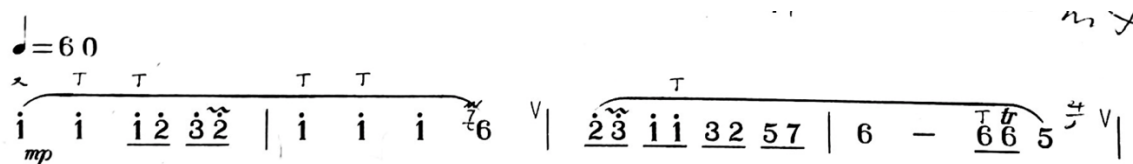
Embellishment is an integral aspect of Chinese flute melodies. In Chinese music notation, symbols indicate specific ornaments. Examples of notated ornamentation are seen in Figure 44, a line from ‘Suzhou Scenes’, a Chinese folk melody for either dizi or xiao.¹⁷⁷

¹⁷⁵ Ibid, p. 2.

¹⁷⁶ Sin-Yan Shen, *Chinese Music and Orchestration: A Primer on Principles and Practice* (Chicago: Chinese Music Society of North America, 1991), p. 16.

¹⁷⁷ See Appendix C to view two full scores of ‘Suzhou Scenes’, one in Chinese notation and another transcribed into European music notation by the author.

Fig. 44 From 'Suzhou Scenes', a folk melody for Chinese flute ¹⁷⁸



The numbers in the score represent the solfège syllables, one being Do. The dots over the number indicate the second octave range. The cross-hatch symbol over the first note in the example indicates a quick grace note from the diatonic step above, in this case Re. The 'T' symbol over the second note indicates a quick grace note coming from the diatonic step below, in this case Si. Grace notes are to be played as quickly as possible and before the beat. The piece is in 4/4 time, and the vertical lines are bar lines. The 'V's at the end of bars 2 and 4 are breath marks. The lines below the numbers denote quavers. The dash after the 6 (or La) in the final bar means to hold the note an extra beat; the six is a minim. In the first bar, the pulse of the tune is immediately established by accenting the beats with grace notes, and variety is added to an otherwise two and a half beat repetition of Do.

As with Native American flutes, Chinese flutes use the lift-off as a means to add a percussive end to a note.¹⁷⁹ Though a common embellishment, lift-offs are not ordinarily notated, but are added extemporaneously. Note the handwritten number four at the end of the line in Figure 44. This is the instructor's notation for a lift-off.¹⁸⁰ The melody is played in G, and the fingering for the lift-off (all holes open) corresponds to a sharp four. Thus the

¹⁷⁸ Zheng, et al, *Selection of Chinese Bamboo Flute Solos* (Hong Kong: Shanghai Book Company, 1985), pp. 1-2.

¹⁷⁹ See Chapter 2.1 for a full explanation of the lift-off.

¹⁸⁰ The excerpt from 'Suzhou Scenes' was taken from the author's personal collection of Chinese flute study books, and the handwritten notation for the lift-off was drawn by her instructor, Nai Sin-sang.

fourth pitch of the scale is not meant to be heard; the number four here is shorthand for a somewhat complex embellishment.

The final line of the folk song ‘Lady Meng Jiang’, shown in Figure 45, serves as further example of idiomatic ornamentation. Here the embellishments do not emphasise the beat, as in the example shown in Figure 44. As with Native American ornamentation, Chinese ornamentation is often utilised to mark structural tones.¹⁸¹ A recurring melodic figure in ‘Lady Meng Jiang’ outlines the minor triad built on the second degree of the scale (E minor in the key of D major, as it is transcribed in Figure 45). This allows the E – G minor third interval to figure more prominently than the D – F sharp major third. The ornaments bring out the E minor triad, delaying the weight of landing on the tonic until the final bar. The grace note at the interval of a fourth in the penultimate bar adds variety to a repeated note, as well as marks the fifth scale degree (in this case, A). The wider interval of the grace note distinguishes this A from those that preceded it. Rather than a passing note in the E minor triad, it functions in the penultimate bar as the dominant to the tonic, strengthening the final cadence.

Fig. 45 Final line of ‘Lady Meng Jiang’¹⁸²



¹⁸¹ See Chapter 2.1 for discussion of Native American ornamentation.

¹⁸² Transcribed by the author.

Composition of Chinese traditional music has for millennia been a non-professional endeavour. According to Jin Jiang, author of ‘The Influence of Traditional Chinese Music on Professional Instrumental Composition’, professional composition in China has a history of only about one hundred years.¹⁸³ From its beginnings after the New Culture Movement in 1919, composers possessed a strong urge to develop a national style, which manifested in the application of western art music compositional techniques (counterpoint, form, and harmonies) to compositions with a distinct ‘Chinese flavour’ (clearly defined melodies with reliance on minor thirds).¹⁸⁴

In the second half of the twentieth-century, under the national slogan, ‘Art should serve politics’, twentieth-century compositional techniques of western art music were eschewed, and there evolved a preference for adapting existing Chinese folk songs to western neo-classical harmonies. An enduring example is the violin concerto, *Butterfly Lovers (Liang Zhu)* composed by He Zhanhao and Chen Gang in 1958.¹⁸⁵ Its construct is similar to the *Concertino for Santoor and Orchestra* by Houssein Dehlavi, in that the folk melody occupies the melodic realm of the piece, with little impact from or effect on the harmonic language.¹⁸⁶ In *Butterfly Lovers*, Chinese folk opera tunes are performed by an orchestra of western European instruments, including the soloist, and the melodies are supported by tonal harmonies typical of western neo-classical music. Considered to be the first classical violin concerto to be written by a Chinese composer, it has been hailed by

¹⁸³ Jiang Jing, ‘The Influence of Traditional Chinese Music on Professional Instrumental Composition’, *Asian Music*, 22, (1991) p. 83.

¹⁸⁴ *Ibid*, pp.83-6.

¹⁸⁵ He Zhan-hao and Chen Gang, *Butterly Lovers Violin Concerto* (1959). Naxos, 1998. CD. Album. Recording.

¹⁸⁶ *Concertino for Santoor and Orchestra* by Houssein Dehlavi is discussed in Chapters 4.1 and 4.2.

Chinese musicians as a pioneering work.¹⁸⁷ However, the musicians play western orchestral instruments in a style with which they are accustomed through training, and in a harmonic language with which they are familiar; the work as a whole does not strike the listener as innovative.

Butterfly Lovers is occasionally performed on the *erhu*, a Chinese two string violin, arranged for an orchestra of Chinese instruments augmented by timpani and bassi.¹⁸⁸ This adaptation of the original score offers a successful and non-idiomatic addition to the repertoire of the Chinese traditional orchestra.

By the end of the twentieth century, the manner of expressing national features in music had expanded beyond that of direct adoption to deeper exploration of traditional music using modern concepts and techniques.¹⁸⁹ Frederick Lau, author of ‘When a Great Nation Emerges: Chinese Music in the World’, writes of the recent emergence of ‘East-West fusion compositions’, a type of music which ‘usually relies on the direct or indirect use of Chinese materials to evoke a special kind of “Chinese” sentiment or accent’, citing works by Bright Sheng, Ge Ganru, Chen Yi, and Zhou Long.¹⁹⁰ These are examples of works for western orchestral instruments which are ‘adorned with Chinese musical gestures

¹⁸⁷ Rachel Cheung, ‘Chinese composer recalls birth of The Butterfly Lovers violin concerto 60 years ago’ (*South China Morning Post*, 4 October 2018).

¹⁸⁸ Liang Shu (arr.), *Butterfly Lovers*, Welchang, Zhuqi National Music Festival, Hsinchu Youth Orchestra. Lu Siqing, *erhu*; Yan Huichang, conductor. Video recording. Web. Published 2 October 2013. <https://oldmusicbook.wordpress.com/2019/05/21/butterfly-lovers-erhu-concerto>. Accessed 12 August 2019.

¹⁸⁹ Jiang Jing, ‘The Influence of Traditional Chinese Music on Professional Instrumental Composition’, *Asian Music*, 22, (1991) p. 90.

¹⁹⁰ Frederick Lau, ‘When a Great Nation Emerges: Chinese Music in the World’, *China and the West: Music, Representation, and Reception*, edited by Hon-Lun Yang and Michael Saffle, (Ann Arbor: University of Michigan Press, 2017), pp. 265 and 272.

or inspired by their composers' understanding and interpretation of Chinese culture and history'.¹⁹¹

While modern compositions for western orchestral instruments imbued with aspects of Chinese traditional music abound, and there are many contemporary works written for *sheng*, a Chinese mouth organ, it has proven difficult to discover art music works written for xiao. A recent and notable example of a work for sheng is *Šu*, a concerto for sheng and orchestra, written in 2009 by Korean-born UnSuk Chin.^{192, 193} A sheng is a large vertical mouth organ capable of playing several notes simultaneously. By taking the folk instrument out of its original context and setting it within innovative harmonies, Chin offers a new form of expression for the sheng. *Šu* breaks with the trend of setting Chinese melodies atop familiar western art music harmonies. Without explicitly incorporating 'Asian-sounding' harmonies, *Šu* successfully melds many different influences into 'a unique and quirky creation that goes far beyond the sum of its parts'.¹⁹⁴

Chin exploits the breathy sounds of the mouth organ with complementary airiness from the string and percussion sections, and this allows the listener to engage specifically with the distinctive timbre. The unique timbre of the sheng emerges as a prominent and defining aspect of the work.

Šu draws from several sources of inspiration. Numerical proportions govern the temporal organisation, and the title is an Egyptian mythological symbol for air. Spatial

¹⁹¹ Frederick Lau, 'When a Great Nation Emerges: Chinese Music in the World', *China and the West: Music, Representation, and Reception*, edited by Hon-Lun Yang and Michael Saffle, (Ann Arbor: University of Michigan Press, 2017), p. 272.

¹⁹² UnSuk Chin, *Šu* (2009). Boosey and Hawkes. Music manuscript.

¹⁹³ I attended a performance of this work on 22 September 2018 in the National Concert Hall in Dublin by the RTÉ National Symphony Orchestra.

¹⁹⁴ Jessica Duchon, 'UnSuk Chin', *BBC Scottish Symphony Orchestra*. Jan 2016. Web. <https://www.bbc.co.uk/programmes/articles/3zLWXVVjtbdQgkpdNwv0HC/unsuk-chin>. Accessed 10 October 2019.

aspects are incorporated into the piece as some members of the orchestra play from the balcony overlooking the stage, giving a feeling of open-air music.¹⁹⁵ It is undeniable that the theme relates to nature, as is customary in Chinese folk music, but the work as a whole moves far beyond what is typically expected of the sheng.

A rare example of a contemporary art music composition written for xiao is found in *Li Jiang Etude No. 3*, for xiao, tape, and real-time digital signal processing (DSP) by Christopher Keyes.¹⁹⁶ A resident of Hong Kong, Keyes is quite familiar with Chinese music, and seeks to integrate traditional material into new works. *Li Jiang Etude No. 3* quotes a popular Chinese melody, and Keyes reflects that this is an aspect of the work that is appreciated by Chinese audiences, as it is familiar to them and in keeping with tradition.¹⁹⁷ As noted in Chapter 1.2, Keyes digitally processes samples of the xiao to change the pitch and timbre, as well as the dynamics. A harmoniser feeds back the diatonic scale raised a whole-tone, and ‘the piece has moments of chromaticism, though always derived directly from the pentatonic scale itself.’¹⁹⁸ Keyes extends original content by using it to build on his own musical principles, and we are reminded of Irlandini’s use of the term ‘re-significance’. However, Irlandini also writes that to digitally process sound samples of non-western instruments bypasses the transcultural exchange that would otherwise occur.¹⁹⁹

¹⁹⁵ Maris Gothóni, ‘Continental Drift: Chin, Wu, Volans, Power’, program notes for *Šu*. National Concert Hall: New Music Dublin, 22 Sept 2018.

¹⁹⁶ Christopher J. Keyes, *Li Jiang Etude No. 3* (2003). Capstone, 2005. CD. Recording.

¹⁹⁷ Christopher J. Keyes, ‘Recent technology and the hybridisation of Western and Chinese musics’, *Organised Sound*, 10(1), (2005) p. 55.

¹⁹⁸ *Ibid*, pp. 54-5.

¹⁹⁹ Luigi Antonio Irlandini, ‘Non-Western musical instruments and contemporary composition’, *ISSUU Digital Publishing*, (2020), p. 6. https://issuu.com/gaudeamusmuziekweek/docs/non-european_musical_instruments_and_contemporary_Web. Accessed 30 November 2020.

In *Zephyr*, which is discussed in Chapter 5.2, such an exchange is sought, and the piece has as a primary focus the distinguishing timbre of the xiao and its interaction with the cymbal and cello.

5.2 Commentary on *Zephyr*

Zephyr is a work for xiao, suspended cymbal, and cello. The word ‘zephyr’ means a soft, gentle breeze, and title reflects the breathy tone produced by the xiao.²⁰⁰ The Irish folk tune, ‘An Ghaoth Aneas’ (The Wind from the South), is loosely arranged and woven into the composition, further alluding to air. The old melody is played often in sessions of Irish traditional music, but its popularity did not factor into the choice to use the song in *Zephyr*. I first heard the tune as I played it from notation in a book of tunes for tin whistle. Never having heard the tune before, I played it more slowly than is customary, and the melody captivated me. I found similarities with Chinese folk melodies. For example, in both ‘An Ghaoth Aneas’ and the Chinese folk tune, ‘Lady Meng Jiang’, the second scale degree is emphasised. In ‘Lady Meng Jiang’, it is the lowest note in a recurring motive outlining a minor triad, and in ‘An Ghaoth Aneas’ there are three cadences on a repeated second degree. Additionally, the repeated first line of ‘An Ghaoth Aneas’ ends with a minor third, reminiscent of the common occurrence of minor thirds in Chinese folk melodies. I put down the tin whistle and played the tune on my xiao, and it seemed to suit the instrument perfectly.

The Irish tune is woven into both the xiao and the cello parts, and often the melodic line is split mid-phrase between the two, and held notes create harmony. This arrangement of the tune places the xiao in a non-idiomatic context, as it participates in polyphony and counterpoint.

²⁰⁰ OED Online, ‘zephyr, n’ in *Oxford University Press*. https://www-oed-com.elib.tcd.ie/search?searchType=dictionary&q=zephyr&_searchBtn=Search. Accessed 6 August 2020.

Because of the soft timbre of the xiao, it proved necessary to write accordingly for the rest of the ensemble so that the other instruments would allow the distinguishing sound to be heard, and not overpower it. The piece begins in ‘mysterious stillness’, as per the tempo marking, as the cymbal uses a superball mallet to create an eerie, ghost-like sound to set the mood. The cello and (to a lesser degree) the cymbal imitate the breathy timbre and lower their dynamics by using extended techniques. *Solo for Cymbal*, by Gerry Hemingway, was influential in compositional choices for the cymbal.²⁰¹

Extended techniques used by the cello which are intended to lower the dynamic and imitate breath include:

- silent fingering = ‘hammer on’, finger the notes on the fingerboard without bowing;
- tonlos = bow directly on the bridge, little to no pitch discernible;
- air noise = ‘rauschen’, mute the string a little bit and use very light pressure, resulting in a breathy sound with a touch of pitch;
- circular bowing. Quarter note equals 48. One rotation per beat.

Extended techniques used by the cymbal intended to imitate breath include:

- a single hand roll with a wire brush;
- a scrape along the rim of the cymbal with a metal beater.

The first gesture played by the xiao exaggerates the breathy timbre. The symbol shown in Figure 46 (in bars 9 and 12) instructs the player to cover most of the split edge of

²⁰¹ *Solo for Cymbal* (2011). Gerry Hemingway. Auricle Records, (2014).

the mouthpiece with the bottom lip and blow, resulting in air noise with no discernible pitch. Other extended techniques used by the xiao are the lift-off, as described in Chapter 2.1, and a quarter-tone bend. The bend is executed by lessening breath support while tilting the mouthpiece away from the mouth. A downward arching arrow indicates a bend of a quarter-tone down on the last quaver of the pitch, as seen in bar 19 shown in Figure 47.

Fig. 46 *Zephyr*, bars 9-15

The musical score for Figure 46 consists of three staves: Xiao, Cym., and Vc. The key signature is one sharp (F#) and the time signature is 4/4. The score begins at bar 9, marked with a fermata and a double bar line. The Xiao part features two measures of sixteenth-note runs, each marked with *mp* and an accent (>), followed by a measure of a whole note with the instruction *a niente*. The Cym. part is mostly silent, with a final measure containing a *shr* (shrieking) effect marked with *ppp*, *mp*, and *ppp*. The Vc. part starts with a sixteenth-note run marked with an accent (>), followed by a measure of a whole note with the instruction *p* and *tonlos* (toneless), and a final measure of a whole note with the instruction *a niente* and *p*. The Vc. part also includes the instruction *air noise* in the final measure.

Fig. 47 *Zephyr*, bars 16-22

The musical score for Figure 47 consists of three staves: Xiao, Cym., and Vc. The key signature is one sharp (F#) and the time signature is 4/4. The score begins at bar 16, marked with a fermata and a double bar line. The Xiao part features a measure of a whole note with the instruction *mp* and a downward arching arrow indicating a quarter-tone bend. The Cym. part is mostly silent, with a final measure containing a *mf* (mezzo-forte) instruction and a *ppp* (pianissimo) instruction. The Vc. part starts with a quarter-note run marked with *mf* and *p*, followed by a measure of a whole note with the instruction *p*.

The fact that *Zephyr* is written for only three instruments permits rhythmic flexibility in the group. The entrances are often staggered, allowing time for the players to respond to one another.

The small size of the ensemble limits the density of harmonies as well, allowing the just intonation of the xiao to be heard. The first pitch of the xiao is not heard until bar 18, accompanied only by a pianississimo roll on the cymbal. The pitch is altered - blurred, as it were, through a bend and a slide, exploiting the concept of alternate tuning. In bars 23-30, a B4 in the xiao is accompanied by G3 in the cello, but the G is produced through circular bowing, and the technique causes the pitch to fluctuate as overtones are sounded. The cello does not play an ordinary pitch until bar 31, and this is unaccompanied. When, in bars 34-6, both the cello and the xiao are playing full pitches, the tuning of the cello is blurred once again as it slides up and down a minor third. This gesture is reminiscent of minor third slides which are idiomatic to the *erhu*, a Chinese violin. It is not until bar 38, more than half way into the work, that the xiao and cello play unaltered pitches against each other. The highly embellished melodic fragments played by the cello in bars 50-51 and bars 54-5 against the unadorned line in the xiao suggest the heterophony that Mok identified in Chinese folk music.²⁰² Compare the embellishments of the previously referenced 'Lady Meng Jiang' (Fig. 45) with the passage from *Zephyr* shown in Figure 49 .

²⁰² Robert T. Mok, 'Heterophony in Chinese Music', *Journal of the International Folk Music Council*, 18, (1966) p. 20.

Fig. 48 *Zephyr*, bars 23-37

Musical score for *Zephyr*, bars 23-37. The score is in G major and 3/4 time. It features three staves: Xiao (flute), Cym. (cymbal), and Vc. (violin).

Bar 23: Xiao plays a melodic line starting with a half note G4, followed by quarter notes A4, B4, and C5. Dynamics: *mp*. Cym. plays a rhythmic pattern of eighth notes with accents, starting with a half note G4. Dynamics: *p*. Vc. plays a half note G3, followed by quarter notes A3, B3, and C4. Dynamics: *p*.

Bar 30: Xiao plays a half note G4, followed by quarter notes A4, B4, and C5. Dynamics: *p*. Cym. is silent. Vc. plays a half note G3, followed by quarter notes A3, B3, and C4. Dynamics: *p*.

Bar 31: Xiao is silent. Cym. is silent. Vc. plays a half note G3, followed by quarter notes A3, B3, and C4. Dynamics: *mf*.

Bar 32: Xiao is silent. Cym. is silent. Vc. plays a half note G3, followed by quarter notes A3, B3, and C4. Dynamics: *f*.

Bar 33: Xiao is silent. Cym. is silent. Vc. plays a half note G3, followed by quarter notes A3, B3, and C4. Dynamics: *f*.

Bar 34: Xiao is silent. Cym. is silent. Vc. plays a half note G3, followed by quarter notes A3, B3, and C4. Dynamics: *f*.

Bar 35: Xiao is silent. Cym. is silent. Vc. plays a half note G3, followed by quarter notes A3, B3, and C4. Dynamics: *f*.

Bar 36: Xiao is silent. Cym. is silent. Vc. plays a half note G3, followed by quarter notes A3, B3, and C4. Dynamics: *f*.

Bar 37: Xiao is silent. Cym. is silent. Vc. plays a half note G3, followed by quarter notes A3, B3, and C4. Dynamics: *f*.

Fig. 49 *Zephyr*, bars 50-5

Musical score for *Zephyr*, bars 50-5. The score is in G major and 3/4 time. It features three staves: Xiao (flute), Cym. (cymbal), and Vc. (violin).

Bar 50: Xiao plays a melodic line starting with a half note G4, followed by quarter notes A4, B4, and C5. Dynamics: *mp*. Cym. plays a rhythmic pattern of eighth notes with accents, starting with a half note G4. Dynamics: *p*. Vc. plays a half note G3, followed by quarter notes A3, B3, and C4. Dynamics: *mp*.

Bar 51: Xiao plays a melodic line starting with a half note G4, followed by quarter notes A4, B4, and C5. Dynamics: *mp*. Cym. plays a rhythmic pattern of eighth notes with accents, starting with a half note G4. Dynamics: *p*. Vc. plays a half note G3, followed by quarter notes A3, B3, and C4. Dynamics: *mp*.

Bar 52: Xiao plays a melodic line starting with a half note G4, followed by quarter notes A4, B4, and C5. Dynamics: *mp*. Cym. plays a rhythmic pattern of eighth notes with accents, starting with a half note G4. Dynamics: *p*. Vc. plays a half note G3, followed by quarter notes A3, B3, and C4. Dynamics: *mp*.

Bar 53: Xiao plays a melodic line starting with a half note G4, followed by quarter notes A4, B4, and C5. Dynamics: *mp*. Cym. plays a rhythmic pattern of eighth notes with accents, starting with a half note G4. Dynamics: *p*. Vc. plays a half note G3, followed by quarter notes A3, B3, and C4. Dynamics: *mp*.

Bar 54: Xiao plays a melodic line starting with a half note G4, followed by quarter notes A4, B4, and C5. Dynamics: *mp*. Cym. plays a rhythmic pattern of eighth notes with accents, starting with a half note G4. Dynamics: *p*. Vc. plays a half note G3, followed by quarter notes A3, B3, and C4. Dynamics: *mp*.

Bar 55: Xiao plays a melodic line starting with a half note G4, followed by quarter notes A4, B4, and C5. Dynamics: *mp*. Cym. plays a rhythmic pattern of eighth notes with accents, starting with a half note G4. Dynamics: *p*. Vc. plays a half note G3, followed by quarter notes A3, B3, and C4. Dynamics: *mp*.

The grace notes throughout the work most often reflect a personal style, and not one derived from Chinese, Native American, or Irish traditional music. A notable exception is found in bars 61-2 and 65-6. In those bars the grace notes add variety to repeated pitches, a device utilised in both ‘Suzhou Scenes’ and ‘Lady Meng Jiang’.

As themes of nature are common in Chinese music, it is fitting that *Zephyr* is a work about breezes and breath. The first sound from the xiao is breath without pitch, and the piece concludes with a return to that sound, the final bar holding unaccompanied breath diminishing to silence. As contemporary compositions by Chinese composers often reference Chinese folk tales or melodies, *Zephyr* references a folk tune as well, albeit an Irish tune.

The use of extended technique in a novel trio of instruments is a departure from that which is idiomatic to the xiao. *Zephyr* represents my initial exploration of and experimentation with writing for xiao. The instrument offers much to be explored, and this is the first of three compositions in this portfolio which incorporate the xiao. As mentioned, *Cloud Shadows*, for five different flutes, is discussed in Chapter 7; and *Bird Suite*, a multi-movement work for xiao, string quartet, and percussion, is discussed in Chapter 8.

6

Introduction to Commentary on *Glissade*

The tin whistle is among the group of instruments typically associated with Irish traditional music. It was an early and formative part of my own musical development, as I played the whistle as a child before beginning study on the western concert flute. Very little has been written about the tin whistle, probably because it has long been considered a toy instrument.²⁰³ Yet there is a complexity within the capabilities of the instrument which elevates it from the status of toy. Consider the following poem by Oliver Postgate, which tells of just such an evolution:

When I was nothing but a very little boy
 My own tin whistle was a favourite toy
 I played it madly; I played it sadly;
 I played it gladly; for my private joy!
 Now I'm a man I'll play it, pleasure bent,
 Not merely a toy but a real instrument.²⁰⁴

The charming poem can be seen as an allegory of the history of the tin whistle, an instrument with humble beginnings as an inexpensive alternative to the recorder which has grown over the years to be included regularly in sessions of Irish traditional music.

I composed two works featuring the tin whistle, both of which draw on non-idiomatic material and settings. *Glissade* is set for high D tin whistle, slide whistle, alto flute, bass clarinet, and snare drum, and was inspired by the above poem. In *Glissade*, the

²⁰³ Bill Ochs, *The Clarke Tin Whistle* (New York: The Pennywhistler's Press, 2000), p. 5.

²⁰⁴ Norman Dannatt, *The History of the Tin Whistle: the story of Robert Carke and his musical invention* (Hythe, Kent: Corunna Publications, 2005), rear cover.

whistle plays alongside a slide whistle, a instrument belonging to the percussion family of the orchestra, but one which can rightly be considered a toy in many settings. The role of tin whistle develops throughout the piece, and it concludes with a virtuosic cadenza. *Cloud Shadows*, which is discussed in Chapter 7, is written for five flutes from four different cultures, including the high D and low D tin whistles. The combination of varying timbres and tuning systems emphasises the tone of the different flutes over pitch.

The brief description and history of the tin whistle provided in Chapter 6.1 affords an appreciation of its development over the years from toy to an instrument which is capable of complex expression.

6.1 The Tin whistle

The tin whistle, an end-blown fipple flute with six finger holes, is associated with several different genres of folk music, but most often associated with Irish traditional music.²⁰⁵ Reputed players include Mary Bergin, Tommy Makem, and Sean Ó Riada.²⁰⁶

It is a transposing instrument, with players often switching whistles to accommodate the key of the tune. The so-called high D whistle, its lowest note sounding an octave above middle D, is the standard in Irish traditional music, though up to nine other keys are widely available.²⁰⁷ The low whistle is a relatively recent development in Irish traditional music, a result of musical experiments led by Paddy Keenan and Finbar Furey in the 1960s and 1970s.²⁰⁸

Manufacturing of the inexpensive and portable instrument began soon after tin plate became available at the end of the eighteenth century.²⁰⁹ Clarke Tinwhistles were the first major manufacturers, beginning in England in 1843, and they remain the oldest commercially produced whistles still on the market.²¹⁰ In 1856 journalist Henry Mayhew documented the story of ‘Whistling Billy’, a young man who made his living busking with the whistle, and the story mentions Clarke as the largest manufacturer at the time.²¹¹

²⁰⁵ Bill Ochs, *The Clarke Tin Whistle* (New York: The Pennywhistler’s Press, 2000), p. 4.

²⁰⁶ Ian Bascombe, *The Official Handbook for the Clarke Tin Whistle* (United Kingdom: The Clarke Tin whistle Company, 2019), p. 54.

²⁰⁷ Bill Ochs, *The Clarke Tin Whistle* (New York: The Pennywhistler’s Press, 2000), p. 77.

²⁰⁸ Finton Vallely, *Companion to Traditional Irish Music* (Cork: Cork University Press, 2011), p. 749.

²⁰⁹ Bill Ochs, *The Clarke Tin Whistle* (New York: The Pennywhistler’s Press, 2000), p. 4.

²¹⁰ Finton Vallely, *Companion to Traditional Irish Music* (Cork: Cork University Press, 2011), p. 749.

²¹¹ Henry Mayhew, *London Labour and the London Poor* (London: Griffin, Bohn, and Company, Stationers’ Hall Court, 1861), pp. 200-04.

Tin whistles today are made from a variety of materials (brass, nickel plated brass, plastics, aluminium, and wood), and the tones of the whistles vary greatly from one to another. Nickel plated whistles, for example, have a brighter timbre than wood whistles.²¹² It is my observation that whistles with metallic tones and a cutting edge are favoured in sessions of Irish traditional music over those with more mellow tones.

Tin whistles are tuned in the same way that recorders are tuned, by means of breath support. This limits the range of dynamics available, as blowing harder will raise the pitch, blowing softer will lower it. Some modern whistles are ‘tuneable’, meaning the head joint can be moved in or out, but this has little effect on the range of dynamics. The high D and low D whistles used in the composition and performance of *Glissade* and *Cloud Shadows* are tuneable and made of brushed aluminium by Alba Whistles (see Figure 50).

Fig. 50 High D and low D tin whistles made of brushed aluminium ²¹³



²¹² Ian Bascombe, *The Official Handbook for the Clarke Tin Whistle* (United Kingdom: The Clarke Tin whistle Company, 2019), p. 90.

²¹³ Photo by the author.

Ornamentation is a key feature of Irish traditional music, in which embellishments serve more to accent the rhythm than to adorn the melody.²¹⁴ Agile and precise articulation through tonguing is possible on the tin whistle; however, the uilleann pipes have greatly influenced ornamentation for wind instruments. The method of articulating primarily via fingering on the uilleann pipes has carried over to the tin whistle.²¹⁵ Tin whistles mainly use the same ornaments as the pipes, such as cuts, rolls, and crans.²¹⁶ Slides are effective and easily performed on the instrument, as there are no keys covering the finger holes. Vibrato is achieved in two ways: either by fluctuation of the diaphragm or by quickly opening and closing two finger holes below the note being sounded. Finger vibrato is more commonly used in Irish traditional settings, despite the fact that, due to fingering, it is not possible for every pitch. This may be influenced by a preference for a brasher tone which is typically sought during traditional music sessions, one which allows the timbre to cut through the ensemble. Diaphragm vibrato results in a warmer tone and so has less carrying power.

The repertoire of the whistle is vast and ever changing. While there is a massive collection of songs passed from generation to generation through oral dissemination, new tunes are created and adopted all the time. Furey's 'The Lonesome Boatman', written for a low G whistle in 1969, is an example of a relatively recently composed melody which is now considered part of the folk canon. However, there exists little in the way of new

²¹⁴ Ian Bascombe, *The Official Handbook for the Clarke Tin Whistle* (United Kingdom: The Clarke Tin Whistle Company, 2019), p. 55.

²¹⁵ Ian Bascombe, *The Official Handbook for the Clarke Tin Whistle* (United Kingdom: The Clarke Tin Whistle Company, 2019), pp. 56-61.

²¹⁶ See Fig. 17, Chapter 3.1 for examples of Irish traditional ornaments.

contemporary art music written especially for the tin whistle. Two examples of contemporary compositions written for tin whistle are found in works by Irish composers, Roger Doyle and Philip Martin.

Doyle's *Ceol Sidhe* (Fairy Music) was written in 1973 for a trio of Irish traditional instruments: high D tin whistle, uilleann pipes, and Irish harp.²¹⁷ The piece opens with an exposed descending third played by the tin whistle. While the heraldic motive has the effect of defining the piece, the tin whistle functions throughout as an accent more than a key player. The sparsely textured work allows the timbre of each of the folk instruments to be heard and appreciated, but the uilleann pipes and the harp deliver the bulk of musical material. Assigning the tin whistle a non-dominant role deviates from Irish traditional idiom.

While triplet rhythms in *Ceol Sidhe* make reference to Irish traditional music, an aleatoric aspect to the harp's arpeggios and a chromatic melody line in the uilleann pipes create non-idiomatic dissonances in the counterpoint between the two. Embellishments are notated in neither the tin whistle nor the uilleann pipes; yet the uilleann pipes melody, and not the tin whistle line, is liberally ornamented by the performer on the 2018 recording (provided by the Contemporary Music Centre Sound Archive).²¹⁸ A whistler is capable of playing any interval or repeated notes without ornaments; if the ornaments are not specifically notated, the whistler may decide not to add any extemporaneously. A piper is largely limited to finger articulation and, for certain pitches, playing 'off the knee', and this often necessitates ornamentation whether notated or not.²¹⁹

²¹⁷ Roger Doyle, *Ceol Sidhe* (1973). Roger Doyle. Contemporary Music Centre Archive. Music Manuscript.

²¹⁸ *Ceol Sidhe*, from the album *Oizzo No.* Contemporary Music Centre Archive. Recording, (2018).

²¹⁹ See Chapter 3.1 about uilleann pipes mechanics and ornamentation.

Ceol Sidhe offers new and non-idiomatic material for the Irish traditional trio. The role of the tin whistle, however, is not that of a soloist. This subverted role, while non-idiomatic, offers little in the way of exploration of the full capabilities of the instrument.

The same can be said of the role of the tin whistle in Philip Martin's *Thalassa*, written in 1991 for voice, mixed chorus, children's choir, and large ensemble.²²⁰ An ensemble of western orchestral instruments is augmented with Irish traditional instruments: tin whistle, traditional violin, *bodhrán*, Irish harp, and accordion. Throughout the piece, the whistle doubles or plays homophonically with the flute, and does not stand alone as a solo instrument, but rather is absorbed by the ensemble.

Doyle and Martin are innovative in their setting and instrumentation for contemporary art music compositions which include the tin whistle. The participation of the tin whistle as an ensemble member rather than a soloist is non-idiomatic. In this role, however, there is limited opportunity for exploration of additional non-idiomatic features, such as uncharacteristic ornamentation and articulation, registral extremes, and timbral exchange.

Master whistlers such as Mary Bergin have certainly elevated the status of the tin whistle from toy to instrument. Her 1979 album, *Feadóga Stáin*, allows the tin whistle to be seen as a vehicle for virtuosity while remaining within the genre of Irish traditional music.²²¹

²²⁰ Philip Martin, *Thalassa* (1991) Contemporary Music Centre Archive. Music manuscript and recording.

²²¹ Mary Bergin, *Feadóga Stáin* (1979). Shanachie Records. CD Album.

Further exploration of the capabilities of the instrument, through the use of extended technique and non-idiomatic ornamentation and harmonic structures, serves to expand the perception of the whistle beyond that of a toy which is limited to a certain setting or genre, to one of a versatile instrument with a wide range of possibilities.

6.2 Commentary on *Glissade*

Glissade is inspired by Oliver Postgate's poem, in which the tin whistle evolves from the status of toy to 'real instrument'.²²² Written for high D tin whistle, slide whistle, alto flute, bass clarinet, and snare drum, the piece allows the tin whistle to emerge from the ensemble as a solo instrument capable of much variety of expression.

Fig. 51 The high D tin whistle and the slide whistle used while composing *Glissade*²²³



The choice of instrumentation in *Glissade* was influenced by the register and timbre of the tin whistle, as well as the poem. Two additional instruments in the ensemble can be associated with child's play: the snare drum and the slide whistle. Picturing a child playing the tin whistle as a toy, one might also envision a playmate on a small drum. The slide

²²² The poem appears at the start of Chapter 6.

²²³ Photo by the author.

whistle, though a standard feature in percussion sections of western orchestras, is considered a toy in many settings. The alto flute and bass clarinet compliment the flute-like timbre of the tin whistle while expanding the pitch range of the ensemble.

Through the use of extended technique, the slide whistle and the snare drum share in the metaphor of growth from toy to ‘real instrument’. Throughout the piece, the slide whistle is treated more like a wind instrument than a toy or a percussion instrument of indefinite pitch. The pitch production of the slide whistle is controlled to a certain extent, as the score calls for approximate pitches rather than free slides with random boundaries. In this way, a measure of control is held over the width of the intervals played by the slide whistle. Instructions for dynamics, vibrato, and articulation are notated, all of which are aspects of playing a wind instrument.

The capabilities of the snare drum are also exploited throughout the piece. *Tchik*, a work for solo snare drum written in 2003 by Nicolas Martyniow, was influential in compositional choices.²²⁴ A variety of techniques are employed in *Glissade*, such as finger taps, finger drags, cross stick, rim slaps, stick clicks, and swiping the drum head with a wire brush. This allows for variety not only in sounds produced, but in dynamics as well, aiding in the overall balance of the ensemble.

Restriction of the roles of the flute, clarinet, and drum in the first thirty bars provides aural space for the exchange between the whistles to develop. Key clicks in the flute and clarinet and light punctuation by the snare drum allow the tin and slide whistles to

²²⁴ Nicolas Martyniow, *Tchik*, (2003). Gérard Billaudot Éditeur. Music manuscript.

dominate the pitch realm. More percussion than pitch, the key clicks ally with the snare drum, serving to bridge the timbral gap between snare and tin whistle.

Beginning in bar 30, the sparse texture develops into a fuller sound in the ensemble as a whole. The slides exchanged between the tin and slide whistles are played by the clarinet and flute as well, and the key clicks previously played by the flute and clarinet develop into a melodic gesture played by the tin whistle and the flute.

From bar 85 and on, the tin whistle takes on more of a leadership role in the melodic development, as the accompaniment is reduced in volume to key clicks and canonic homophony in the flute and clarinet, and wire brush swipes and finger taps in the snare drum.

The piece concludes with an extended tin whistle solo, in which the whistle expands on the melodic gesture that has grown out of the key clicks in bar 19. This expansion develops into a virtuosic passage, featuring precise tongue articulation and registral extremes. The wide interval leaps are inspired by baroque works such as the Cello Suites by J.S. Bach and the Sonata in A Minor for Flute Solo by C.P.E. Bach, in which monodic music gives the impression of two lines of music, a duet between registers.

The cadenza begins and ends with D as a clearly defined pitch centre; however, the bulk of the cadenza does little to reinforce D major, the home key of the instrument. Instead, non-diatonic pitches such as D sharp/E flat, and C natural emphasise melodic direction rather than harmonic definition. The cadenza does not cadence on D until the final phrase.

Fluttertongue, which embellished the sextuplet 'key click' motive (for example, in bar 47), embellishes the key click motive in the cadenza as well, but then the use of the

technique is expanded to longer lines. This, in addition to the irregular rhythms, division of register, and fast moving phrases, render the cadenza a virtuosic passage, requiring a skilled performer.

The title, *Glissade*, makes reference to a sliding dance step. The ability of the tin whistle to perform slides is exploited throughout the piece as a foundational motive. While the piece can be said to begin and end with a pitch centre of D with a middle section in G major, the many slides in the tin whistle, slide whistle, and bass clarinet parts introduce a microtonality which mitigates the familiar brightness of a major key.

Appropriately, the slide motive is first introduced by the slide whistle. It's as though the playful meandering of the tin whistle in the first eight bars meets a friend in the slide whistle in bar 9, as the two participate in a volley of slides.

The bulk of the composition is not in the key of D, which is the home key of the whistle for which *Glissade* is written. While the pitch material of the opening solo passage is diatonic to D major, the first cadence on D does not occur until the end of the solo, in bar 16. The cadence dovetails with the first presentation of the principle motive, and this firmly establishes D as the pitch centre. However, this is not reinforced in the following passage. Instead, a sliding semitone motive is introduced. This, rather than a pitch centre, becomes the defining feature. In fact, the tin whistle does not play another D until bars 49-50, where the D prepares for the modulation to G in bar 51.

From bar 92 the pitch centre is E, and the music takes on the feel of a minor key. A return to the pitch centre D does not occur until the cadenza, beginning in bar 118.

The style of ornamentation in *Glissade* is varied, and reflects the influence of both Irish traditional and Native American music, as well as my own approach to how grace notes effect harmony or motivic development. The double cuts in bars 38 and 54, for example, are idiomatic to Irish traditional music. In bar 38 the downbeat is strengthened by the gesture, and in bar 54 the double cut strengthens the entrance of the semitone motive on the third beat of the bar.

Whereas ornaments in Irish traditional music are typically used to accent the rhythm, ornaments in Native American music emphasise structural tones.²²⁵ In bars 2 through 14, the grace notes which are a step away from B and D mark those pitches as structural tones, rather than add weight to any particular beat. Emphasising B and D reinforces the momentary sense of B minor, delaying the weight of D as a pitch centre until the downbeat of bar 16 (see Figure 52). The lift-offs in bars 66 and 68 are also reflect Native American influence, and they serve to strengthen the cadences.

Some ornaments in *Glissade* are not influenced by either Irish traditional or Native American music, such as the grace note at an interval of a fourth in bar 15. This foreshadows the melodic fourth that characterises the motive presented in bars 16-20. The F sharp grace note before the downbeat of bar 11 adds weight to the A, which is the highest pitch of the opening solo and the dominant of the pitch centre. While it does indeed strengthen the downbeat, the grace note at the interval of a minor third adds more weight than would a grace note that is an idiomatic step away. In bar 39, the grace note at the uncommon interval of an augmented fourth serves to destabilise any diatonic aspect to the

²²⁵ See Chapter 2 for a discussion of ornamentation in Native American music.

passage, as well as emphasise the accented B played by the alto flute, bringing out the dissonance with the C sharp played by the bass clarinet.

Fig. 52 *Glissade* bars 1-16

Relaxed ♩ = 76

Quite freely *with warm vibrato throughout*

High D Tin Whistle *gliss.* *mp* < > *p* *mp*

Slide Whistle (approximate pitches)

Alto Flute (sounds 4th lower)

Bass Clarinet (sounds 9th lower)

Snare Drum (snares on)

7

T.W. *cue slide whistle* *mp* *mf*

S.W. *slide positioned all the way out* *cue tin whistle* *p* *slide all the way up* *mp* *mf*

12

T.W. *p* *mf*

S.W. *mp*

In a slight deviation from idiom, the tin whistle is instructed to play with ‘warm vibrato throughout’. This suggests playing with diaphragm vibrato unless otherwise indicated to play finger vibrato, as in bars 27-8. As noted in Chapter 6.1, it has been my

observation that the carrying power of finger vibrato is favoured in Irish traditional music sessions over the warmer tone of diaphragm vibrato. In *Glissade*, finger vibrato is used sparingly, and as a means to shape the semitone motive.

The rhythms played by the wind instruments in *Glissade* are reflective of Native American influence. The rhythmically free opening solo passage connotes the free metre of birdsong, as is typical of Native American flute melodies.²²⁶ Throughout the work, the melodic lines of the whistle, flute, and clarinet do not adhere to a regular metre, but interact in a more conversational way. The snare drum repeats cells of rhythmic gestures, but often at uneven intervals, and so not in strict imitation of body rhythm, as would be characteristic of Native American drum music. For instance, the two phrases played in bars 39-41 are repeated in bars 43-5, but with an extra beat rest between them. The steadiness of a regular metre is interrupted, so to speak.

In *Glissade*, the tin whistle not only participates in an ensemble with instruments which lie outside the boundaries of its typical context, but it emerges as soloist in the new setting. Whereas the role of the tin whistle, which is typically soloistic in Irish traditional music, was subverted in the contemporary compositions discussed in Chapter 6.1, there is an opportunity in *Glissade* for the instrument to expand its artistic and stylistic expression. The piece concludes with a solo passage that requires skills such as those demonstrated by Mary Bergin in her performance of Irish traditional and baroque music. While the inclusion of the slide whistle makes playful reference to the humble beginnings of the tin whistle, the concluding cadenza, with its registral extremes, precise articulation, non-idiomatic

²²⁶ See Chapter 2.1 for discussion of rhythms in Native American music.

ornaments, and free metre, demonstrates a full capacity for a wide range of capabilities and technique. In this way, a new voice is given to the the tin whistle, with much opportunity for further exploration.

7 Commentary on *Cloud Shadows*

Cloud Shadows is written for five different kinds of flute: high D tin whistle, Native American flute, xiao, western concert flute, and low D tin whistle. Inspiration for the piece came during a moment when I was standing on a high peak in Dingle, Ireland, enjoying a view of the valley below. As clouds passed overhead, the appearance of the landscape below changed as the light shifted. In *Cloud Shadows*, shifts in timbre among the flutes transfer this image from landscape to soundscape. As melodic fragments are passed from one voice to another, and as notes are exchanged during sustained chords, the perception of the melodic line and the chords changes. As pitches are swapped between the flutes, it is often the change in timbre that propels the piece forward or gives closure to a cadence, as opposed to harmonic progression.

Fig. 53 Five flutes used to compose *Cloud Shadows*²²⁷



²²⁷ Photo by the author.

The five flutes have at their roots four different musical cultures. *Cloud Shadows* does not expressly incorporate the melodic idioms and harmonic languages of the different cultures, yet each of the flutes brings to the piece its distinct timbre and tuning system. While ensembles of instruments from varying cultures exist, research has not revealed pre-existing works for five different kinds of flutes. The Silkroad Ensemble, for example, perform on instruments from many different cultures, including the *ney*, a Persian flute, and two Japanese flutes, the *shakuhachi* and the *shinobue*, yet their body of work does not include a piece for an ensemble of flutes alone.^{228, 229}

Works performed by the Silkroad Ensemble demonstrate a collaboration in which one culture is not dominant over another, and a new sound is born through the meeting of equals. ‘Ascending Bird’ is a Persian folk melody arranged by santoor player, Siamak Aghaei, and violinist, Colin Jacobsen.²³⁰ The two arrangers come from different musical backgrounds to create a work which reflects both. ‘Arabian Waltz’, by Rabih Abou-Khalil, fuses Arabic musical traditions with jazz improvisation.²³¹ The improvisational passages allow the musicians to take turns interpreting the melody. The various instruments enter into an imitative dialogue while retaining their distinct identities, including their different tuning systems.

In *Cloud Shadows*, the flutes are also instructed to play in the tuning systems idiomatic to the instruments. All of the flutes in *Cloud Shadows*, except for the western

²²⁸ Silkroad, <https://silkroad.org/silkroad-ensemble>. 2020. Accessed 15 August 2020.

²²⁹ Adam Gurczak, Artistic Programs Director, Silkroad. ‘Re: PhD research question.’ Message to the author. 3 September 2020.

²³⁰ Siamak Aghaei and Colin Jacobsen, *Ascending Bird* (arr. 2012). The Silkroad Ensemble. Video recording. <https://ytshowcase.emdplugins.com/videos/the-silk-road-ensemble-ascending-bird>. Accessed 14 August 2020.

²³¹ Rabih Abou-Khalil. 2010. *Arabian Waltz*. The Silkroad Ensemble. Video recording. Web. <https://ethnictune.com/video/the-silkroad-ensemble-arabian-waltz>. Accessed 14 August 2020.

concert flute, are tuned in just intonation or in relation to their fundamentals, not in equal temperament. The intervals between scale degrees on the whistles, the Native American flute, and the xiao are not equidistant, as they ordinarily are on western orchestral flute. The third, sixth, and seventh scales degrees are tuned about an eighth of a tone lower in just intonation, whereas the second and fifth scale degrees are tuned slightly higher.²³² As the scale degrees are tuned in relation to the fundamental, each key will sound different from another. In *Cloud Shadows* then, it is understood that an A played on a Native American flute with an F sharp fundamental, for example, will naturally (without alteration or accommodation) sound lower than an A played on the western concert flute. An F sharp played on a tin whistle in D will naturally sound lower than an F sharp on both the Native American flute and the western concert flute.

It is indeed possible for the five flutes to play in equal temperament, by means of alternate fingering and breath regulation.²³³ In *Cloud Shadows*, however, each flute is to perform according to its distinct tuning, exploiting the individuality of each flute. To an ear accustomed to equal temperament tuning, it is possible that the combination of the five different flutes results in a sound that seems ‘out of tune’. In the article ‘Temperaments, tonalities and micro tonalities: an introduction’, Christopher Fox refers to James Tenney to support music which explores non-equal temperaments:

James Tenney has argued that the harmonic development of Western art music reached something of an impasse around 1910 and that it was only when composers began to imagine music that went beyond 12-tone equal temperament

²³² The Native American flute has a unique tuning system, as discussed in Chapter 2.1.

²³³ In compositions ‘Hope’ and ‘Soft-spoken Power’, the Native American flute is to play in equal temperament. See Chapter 2.1 for discussion of alternate fingerings developed for this purpose.

that our music evolution could continue.²³⁴

While the interaction of alternate tunings is a distinguishing feature of *Cloud Shadows*, timbral exchange is a primary focus. In the article, ‘Perception of musical tension for nontonal orchestral timbres and its relation to psychoacoustic roughness’, Pressnitzer and McAdams indicate that ‘nontonal [sic] tension could be perceived consistently on the basis of timbral differences’.²³⁵ The authors discuss the results of an experiment which they conducted to determine whether tension in non-tonal music can be expressed without dynamic or rhythmic cues. Their findings reveal that music that ‘does not draw on the implicitly shared tonal culture may disorient listeners and, hence, deprive them of the essential landmarks that schemas of tension and release provide for the appreciation of a musical work’.²³⁶ Thus, in non-tonal works it is necessary to build tension through alternate means. *Cloud Shadows* is not non-tonal, but has D as a pitch centre; however, timbre is indeed an aspect used to define the phrase structure and cadences, participating in the development of tension and release. Joshua Fineberg names the treatment of timbre as one of the distinguishing characteristics of spectral music. He writes that spectral music ‘has made colour into a central element of the musical landscape, often elevating it to the level of the principle narrative thread’.²³⁷ While *Cloud Shadows* is not a spectral work, the approach to timbre is similar. Timbre is used to help shape phrases and participates in the tension and release, and pitch is relegated to a role that is, while significant, not paramount.

²³⁴ Christopher Fox, ‘Temperaments, tonalities and micro tonalities: an introduction’, *Contemporary Music Review*, 2, (2003) pp.1-2.

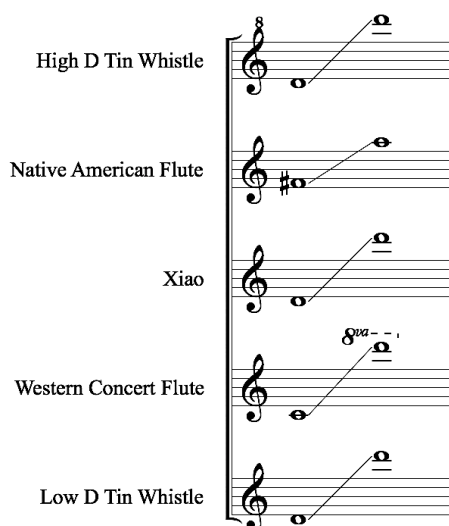
²³⁵ Daniel Pressnitzer and Stephen McAdams, et al, ‘Perception of musical tension for nontonal orchestral timbres and its relation to psychoacoustic roughness’, *Perception & psychophysics*, (2000) p. 60.

²³⁶ Ibid. pp. 66-80.

²³⁷ Joshua Fineberg, ‘Spectral Music’, *Contemporary Music Review*, 19, (2000) p. 1.

Whereas Messiaen sought to transform timbre by combining diverse registers and dynamics (in *Couleurs de la Cité Céleste*, for example), the close and overlapping pitch ranges of the five flutes in *Cloud Shadows* necessitate alternate means of creating variety in tone colour and expression.²³⁸ The fact that there is so much registral overlap among the flutes allows for a keener focus on tone colour. Variety of tone colour is accomplished through the exchange of flutes within motives and by exploiting various means of articulation.

Fig. 54 Ranges of flutes in *Cloud Shadows*



Each flute in *Cloud Shadows* has a distinct timbre, and the initial entrances of each of the flutes are staggered, allowing the individual voices to be introduced to the listener one at a time. The high D tin whistle is bright and somewhat metallic. It can be piercing and has the ability to cut through most instrumentation unless it is playing its very lowest

²³⁸ Julian Anderson, 'A Provisional History of Spectral Music', *Contemporary Music Review*, 19, (2000) p. 10.

notes. The low D whistle, on the other hand, has a warmer and much more subdued tone. Though it is made of aluminium, the length of the tube and the size of the finger holes allow a bit of breathiness to enter the tone.²³⁹ The Native American flute has a warm, woody tone, but its fetish adds a certain brightness, and there is a distinctive edginess to its tongued notes.²⁴⁰ The xiao has a light, breathy tone throughout much of its range, with a fair amount of resonance in its lowest notes.²⁴¹ The western concert flute is made of silver and is a standard member of the western European orchestra. Its dynamic range is great, and the instrument could quite easily overpower the other flutes if care is not taken in the composition.

The opening melody of *Cloud Shadows*, which first appears in its entirety in bar 5, is fragmented and divided among the flutes. The unbroken melody is shown in Figure 55.

Fig. 55 Opening melody of *Cloud Shadows*



The fragmented melody as it appears in bars 5-6 is shown in Figure 56.

²³⁹ Both the high D and the low D tin whistles used in the composition and the performance of *Cloud Shadows* are constructed of finished brushed aluminum.

²⁴⁰ The Native American flute used in the composition and performance of *Cloud Shadows* is constructed of cedar wood and has an F# fundamental.

²⁴¹ The xiao used in the composition and performance of *Cloud Shadows* has eight holes (as opposed to the more common five or seven holes), allowing for more chromatic notes without half-hole fingering. Its fundamental is D.

Fig. 56 *Cloud Shadows*, bars 5-6

The musical score for bars 5-6 of 'Cloud Shadows' is presented for five instruments. The instruments are listed on the left: High D Tin Whistle, Native American Flute, Xiao, Western Concert Flute, and Low D Tin Whistle. The score is written in treble clef with a key signature of one flat (B-flat). The time signature is 4/4. The bar number '5' is indicated at the top left. The High D Tin Whistle part has a whole note in bar 5 and a whole note in bar 6. The Native American Flute part starts in bar 5 with a half note, followed by quarter notes, and ends with a whole note in bar 6. The Xiao part starts in bar 5 with a half note, followed by quarter notes, and ends with a half note in bar 6. The Western Concert Flute part starts in bar 5 with a half note, followed by quarter notes, and ends with a half note in bar 6. The Low D Tin Whistle part starts in bar 5 with a whole note, followed by quarter notes, and ends with a half note in bar 6. Dynamic markings include *mp* (mezzo-piano), *mf* (mezzo-forte), and *p* (piano). Accents are used to highlight specific notes.

Rather than a single thread of melody, the result is a spectrum of musical colour woven into a fabric. In bars 1-13, as the melody transfers from one flute to another, pitches within the line are sustained, and a predominant harmony of D minor emerges. Through exchange of one flute for another in a sustained chord, a shift in the tone colour of the chord occurs. A D minor triad in second inversion is sounded seven times in the first thirteen bars (The first appearance, in bars 2 and 3, is broken, with the A appearing after the F has been released.). The register of the three pitches (A4, D5, and F5) remains constant; however, the presentation and resultant perception is in continual flux, because of the difference in timbre. Only once is the exact combination of flutes that are playing the chord repeated (bars 5 and 9).

Fig. 57 Seven instances of D minor in bars 1-13, *Cloud Shadows*

	bars 2-3	bar 5	bar 6	bar 9	bar 10 (a)	bar 10 (b)	bar 13
F5	Xiao	Flute	Xiao	Flute	Xiao	Xiao + Low Whistle	Flute
D5	High Whistle	Nat. Amer. Fl.	Low Whistle	Nat. Amer. Fl.	Nat. Amer. Fl. (+Flute)	Nat. Amer. Fl.	Nat. Amer. Fl.
A4	Flute	Xiao	Flute	Xiao	Low Whistle	Flute	Xiao

Shifts in timbre through voice exchange are observed throughout the piece. The second motive (introduced in bar 25) is not as fragmented as the opening motive, and this allows more time for the timbral shift to be heard. The xiao introduces the second motive on the downbeat of bar 25, and the third note of the motive, A4, is played in bar 26 by the western concert flute. With the immediate repetition of the motive played in bars 27-8 by the low whistle and the xiao, a difference in tone colour is readily discerned, and the differently coloured motive functions as a development rather than a duplication (see Figure 58).

Other instances of voice exchange in *Cloud Shadows* include:

- bars 31-2: the low whistle sustains an A4 while a G4 is played first by the xiao and then by the western concert flute. In bar 32, the Native American flute adds an A4.
- bars 33-4: the western concert flute and the low whistle exchange E4 and G4.
- bar 47: the A4 and B4 played by the xiao and the Native American flute are then played by the low whistle and the xiao.

Fig. 58 *Cloud Shadows*, bars 25-31

The musical score for bars 25-31 of *Cloud Shadows* features five instruments: High D Tin Whistle, Native American Flute, Xiao, Western Concert Flute, and Low D Tin Whistle. The score is written in treble clef with a key signature of one flat (B-flat). The tempo is marked with a common time signature (C). The score shows a unison line with various dynamics and articulations. The dynamics range from *pp* (pianissimo) to *mf* (mezzo-forte). The articulations include accents, finger vibrato, and *senza vib.* (without vibrato). The score is divided into measures 25, 26, 27, 28, 29, 30, and 31. The High D Tin Whistle part is mostly silent, with a few notes in measures 25 and 26. The Native American Flute part has notes in measures 25, 26, 27, 28, 29, and 30. The Xiao part has notes in measures 25, 26, 27, 28, 29, and 30. The Western Concert Flute part has notes in measures 25, 26, 27, 28, 29, and 30. The Low D Tin Whistle part has notes in measures 25, 26, 27, 28, 29, and 30.

Exchanges of timbre on a unison occur throughout the piece as well. This device allows for development or closure of a musical idea exclusively by means of timbre, not pitch. The entrance of the second motive with xiao playing a D4 in bar 25 is preceded by a D4 in the low whistle in bar 24. The low whistle's line is paired with a similar musical gesture in the high whistle, which ends an octave higher. Despite identical pitches being played by the low whistle and the xiao, it is the tone of the xiao which starts the motive, not the low whistle. The xiao is distinguished from the low and high whistles not only by its differing timbre, but also with a slightly louder dynamic.

Throughout the faster middle section of the piece, a pedal note F sharp is played by different flutes and with different pairings. Compare bar 67 with bar 69, for example.

Fig. 59 *Cloud Shadows*, bars 67-9

The musical score for Figure 59, bars 67-9, is presented in five staves. The instruments are: High D Tin Whistle, Native American Flute, Xiao, Western Concert Flute, and Low D Tin Whistle. The score begins at bar 67, marked with a '67' and a '6' above the staff. The High D Tin Whistle part consists of three measures of whole rests. The Native American Flute part has a whole rest in bar 67, followed by a quarter note in bar 68, and a sixteenth-note triplet in bar 69. The Xiao part has a quarter rest in bar 67, followed by a sixteenth-note triplet in bar 68, and a quarter note in bar 69. The Western Concert Flute part has a quarter note in bar 67, followed by a quarter rest in bar 68, and a sixteenth-note triplet in bar 69. The Low D Tin Whistle part has a sixteenth-note triplet in bar 67, followed by a quarter rest in bar 68, and a quarter note in bar 69. The score includes various articulation marks such as accents and slurs.

The shift in tone colour from the changing instruments adds progression and musical development to a single repeated pitch. As the section draws to a close, rhythmic variety is added to the pedal tone as a means of transition, as can be seen in bars 83-7, shown in Figure 60.

A third example of timbral exchange on a unison is found in bars 36-8, shown in Figure 61. The end of the melodic line is extended by shifting the tone colour of the G4 from xiao to western concert flute.

Fig. 60 *Cloud Shadows*, bars 83-7

Fig. 61 *Cloud Shadows*, bars 36-8

This exchange lays bare the difference in tuning, and the effect is rather jarring. The cadence might prove more successful if the E in the low whistle is held over through bar 37.

In addition to timbral exchange, embellishments and a variety of articulations are employed throughout the piece to vary musical colour and to propel melodic lines. In particular, the distinctive sound of tongued notes on the Native American flute plays a role in shaping the melody in at least three instances. After a four bar introduction, the melody is first played in bar 5 (see Figure 56). The initial pitch is sustained by the western concert flute in bar 4, but reiterated on the downbeat of bar 5 with a non-tongued accent in the western concert flute and an entrance in the Native American flute, both on A4. It is the sharp sound of the tongued note in Native American flute that marks the start of the melody. In bar 7 and then bar 11 (see Figure 62), the shift in harmony is made more impactful as a tongued note on the Native American flute is combined with finger vibrato to highlight the entrance of the E5. A third example of the distinctive sound of tonguing on Native American flute which affects the voice leading is found in bar 40. The articulated E5 and the D sharp5 in the Native American flute accentuate the line, and thus the complex rhythm of the offset triplets is highlighted.

Fig. 62 *Cloud Shadows*, bars 7-11

The musical score for Figure 62, titled "Cloud Shadows, bars 7-11", is presented in five staves. The staves are labeled TW, NAF, Xi, FL, and LW from top to bottom. The score begins at bar 7. The TW staff features a "fluttersong" marking above the first measure. The NAF staff includes markings for "finger vibrato", "lift-off", "ord.", and "mf fing. vib.". The Xi staff has a "lift-off" marking above the second measure. The FL staff includes markings for "p", "lift-off", and "mp". The LW staff has a "mp" marking below the second measure. The score is written in treble clef with a key signature of one flat (B-flat) and a 4/4 time signature. The music consists of melodic lines with various articulations and dynamics, including accents, vibrato, and fingerings.

Additional techniques used throughout *Cloud Shadows* lend variety to the tone colour. For example, fluttertongue and a slide in the high D whistle, finger vibrato and slides in the Native American flute, and lift-offs in all flute parts will all be found in the first thirteen bars.²⁴² In bars 42-7, the A4 - B4 dyad undergoes several tone colour changes with alternating trills in the Native American flute and the low whistle and quarter-tone bends in the xiao and the Native American flute. Here, too, the E5 that was sustained in the xiao in bar 43 changes tone colour with the addition of fluttertongue in bar 44. In bar 48, the western concert flute distinguishes its pitch from the octave pairing in the high D whistle by breaking the sustained E5 into a triplet. This device is also used in bar 37 in the xiao and the western concert flute.

The shifts in timbre throughout *Cloud Shadows* are heightened by the differences in tuning among the five flutes. When instruments are playing in an ensemble which incorporates different tuning systems, it is likely that accommodations will be made, whether intentional or not, to even out perceived dissonances.²⁴³ However, unless extraordinary measures are taken, such an ensemble will not play in equal temperament tuning. As mentioned above, the flutes in *Cloud Shadows* are to be played according to their individual tuning systems. The undulation of pitch resultant in the combination of differently tuned flutes provides an additional dimension to the timbral exchange. This is most evident when the flutes are playing a unison interval, either simultaneously or in immediate succession. In addition to the previously discussed unison in bars 36-8, an

²⁴² See Chapter 2.1 for an explanation of the lift-off.

²⁴³ The recording provided in supplementary materials is of one player (the author) playing all five tracks of *Cloud Shadows*, and so the sympathetic tuning which is likely to happen in a live setting did not occur.

equally bare unison occurs in bars 95-118, with the A played in the Native American flute and the xiao. As with the unison in bars 36-8, the unison A that recurs at the end of the work may be too jarring. A solution to this compositional issue may be to have the low whistle drone on alternating D4 and E4.

Three stylistic techniques, namely half-hole fingering, bending of notes down a quarter-tone, and sliding between pitches, serve to move the overall sound of the piece further away from that of equal temperament. Examples of half-hole fingering are found in the low whistle in bars 6, 10, and 13 (playing an F natural), and in the Native American flute in bars 103, 107, and 112 (playing a B flat). Both the F natural in the low whistle and the B flat in the Native American flute are slurred from the preceding notes. This means that the microtones sounded as the finger moves position over the hole will be audible. The incorporation of slides and quarter-tone bends throughout the piece also sound microtones, blurring the line between intervals and offering a soundscape beyond that of equal temperament.

Through the combination of flutes from various origins, the continuous shift of tone colour in *Cloud Shadows* elevates the role of timbre to that of a structural feature. The inherent differences in timbre and tuning among the five flutes allow the music to move beyond the familiar and enter a new soundscape.

8 Commentary on *Bird Suite*

Bird Suite is a five movement work for xiao, two percussion players, and string quartet. It is the third work in this portfolio that is written for xiao, and the total duration is just under thirty minutes. The suite reflects a thorough exploration of the instrument.²⁴⁴ As with *Zephyr*, which is discussed in Chapter 5.2, *Bird Suite* does not expressly incorporate idioms of Chinese folk music, but explores the register, articulation, and extended techniques available to the xiao. The five movements offer a range of expression, as each movement has its own instrumentation, structure, and themes. The varying textures of the movements allow the xiao to participate in polyphony, a role which is atypical in Chinese folk music.²⁴⁵

It is assumed that the string quartet will perform in equal temperament, as western art musicians typically do so unless otherwise instructed. The direction for the strings to match the just tuning of the xiao is not given by the composer. The different tunings are not in conflict; rather, the texture and the harmonic material of the suite as a whole allow the aural space for the xiao to be played in its customary tuning, supported by strings played in equal temperament.

Imitation of natural birdsong is the central theme of the suite, and the xiao plays the prominent role in the delivery of the birdsong. Participating in an ensemble of western orchestral instruments, the xiao emerges as soloist, but not as a foreign guest. Balance and

²⁴⁴ *Zephyr*, for xiao, cello and suspended cymbal, is discussed in Chapter 5.2, and *Cloud Shadows*, for high D tin whistle, Native American flute, xiao, western concert flute, and low D tin whistle, is discussed in Chapter 7.

²⁴⁵ See Chapter 5.1 for a discussion of the xiao and heterophony in Chinese folk music.

interplay are maintained between soloist and ensemble. The size of the ensemble is expressly kept to a minimum so that the xiao is not overpowered. The percussion acts more as an accent, punctuation, or imitation of the rhythms of birdsong, than provider of an ongoing pulse.

Inspiration for the suite was drawn from a range of musical compositions, including G.F. Telemann's Suite in A minor for Flute, *Medieval Suite* by Katherine Hoover, Sonata in A minor for Flute Solo by C.P.E. Bach, *The Aviary* by Richard Rodney Bennett, and *Le Merle Noir* by Olivier Messiaen. All of the above, except *Le Merle Noir*, are large scale works presented in a series of movements. The division of *Bird Suite* into five segments allows for differing aspects of the xiao to be examined, from short angular bird chirps with large interval leaps to longer, slow-moving lines of melody.

'Suite' is a word with many meanings; the original musical connotation of the word is a set of instrumental compositions in dance style, though it evolved to encompass works comprised of series of movements for solo instrument. The word itself is derived from the Latin *sequere*, a cognate meaning 'to follow'.²⁴⁶ Broad application of the musical term may be understood as a sequence of movements of instrumental music with a unifying factor, such as harmonic or motivic relationships between the movements.²⁴⁷

Composers of the Second Viennese School frequently titled compositions with baroque names. Writing about Schoenberg, musicologist Donald Mitchell notes that

²⁴⁶ OED Online. 2020a. 'suite, n. 3.a.(b)' in *Oxford University Press*. <https://www-oed-com.elib.tcd.ie/view/Entry/193727?redirectedFrom=suite#eid>. Accessed 6 July 2020.

²⁴⁷ David Fuller, 'suite', *Grove Music Online* (2001), <http://eds.a.ebscohost.com.elib.tcd.ie/eds/detail/detail?vid=0&sid=2b638e84-9691-4f52-9aa3-cc71e1438f93%40sessionmgr4008&bdata=#AN=edsomo.27091&db=edsomo>. Accessed 3 May 2020.

‘despite the radical innovations in language, in fact, the sense of tradition persists and expresses itself most powerfully in the maintenance of traditional forms, however much expanded or re-formulated.’²⁴⁸ More recently, Lachenmann’s 1979 suite for string quartet and orchestra, *Tanzsuite mit Deutschlandlied*, both embraces and disrupts historical music form. As University of Chicago professor Seth Brodsky writes, Lachenmann’s suite ‘structures and then defaces old dances; it sets and then obliterates old tunes’.²⁴⁹ In the works of these masters, acknowledgement of history is partnered with innovation.

The use of baroque nomenclature in contemporary music titles is not uncommon, and recent works bear the word ‘suite’ in the title.²⁵⁰ *Medieval Suite*, written by Katherine Hoover, for example, was written in 1986 and is a five movement suite for flute and piano, the first movement of which also bears a baroque title, ‘Virelai’.²⁵¹ Each of the movements depicts an event from *A Distant Mirror: The Calamitous Fourteenth Century*, the history of medieval France written in 1978 by Barbara W. Tuchman.²⁵² Unifying elements throughout the suite are the programmatic elements (all based on Tuchman’s opus), and reference to medieval forms and styles. *Medieval Suite* is a series of vignettes in which medieval melodies are embellished, altered, and injected with chromaticism in the creation of a work that is innovative and at times daring.

²⁴⁸ Donald Mitchell, ‘Stravinsky and Neo-Classicism’, *Tempo*, 61/62, (1962) p. 12.

²⁴⁹ Seth Brodsky, ‘*Tanzsuite mit Deutschlandlied*, for string quartet and orchestra’, *AllMusic*, Netaktion LLC (2020).

²⁵⁰ For example, Aulis Sallinen’s *Dance Music Suite* (2017) and Claude Bolling’s *Picnic Suite* (1980) and *Suite for Flute and Jazz Piano* (1973).

²⁵¹ Katherine Hoover, *Medieval Suite* (1986), Theodore Presser Company. Music manuscript.

²⁵² Eileen Anne Yarrison, ‘The ‘Medieval Suite’ for flute and piano by Katherine Hoover: An examination, analysis and performance guide’. *ETD collection for University of Nebraska - Lincoln* (1996).

Two factors unify the movements of *Bird Suite*. The first is the programmatic element of birdsong permeating all five movements, and this is usually delivered by the xiao. The birdsong is notated from sounds heard in nature; the process was inspired by Messiaen, but is not as methodical.²⁵³ *Bird Suite* is a series of five discrete vignettes, and these do not necessarily depict five distinct birds. The reproduction of the birdsong in the suite is not meant to be exact, but more of an impression, akin to the ‘*verism*’ of Messiaen.²⁵⁴

The second unifying factor of the suite is a harmonic structure which maintains two separate realms, ‘atmosphere’ and ‘birdsong’. The ‘atmosphere’ is predominantly characterised by open-spaced chords played by the strings, and the ‘birdsong’ by melodic progression via a fourth plus a semitone.²⁵⁵ The semitone is the agent of motion in the horizontal realm, as opposed to the relative stability of chords in the vertical. The melodic cell is recognised despite inversion and octave displacement. Two examples of this birdsong motive are illustrated in Figures 63 and 64. In bars 24 and 25 of the first movement (see Figure 63), the semitone is present between the F and E, and the fourth between the F and B flat (spelled as an A sharp). In bar 248 of the same movement (Figure 64), the semitone is present between the D and C sharp, and the fourth between the D and the G.

²⁵³ Norman Demuth, ‘Messiaen's Early Birds’, *The Musical Times*, 101, (1960) p. 627.

²⁵⁴ *Ibid.*

²⁵⁵ Set-class 016, as defined by Allen Forte.

Fig. 63 'Listen for the Birds', bars 23-5

Xiao

Fig. 64 'Listen for the Birds', bar 248

Xiao

Except for the third movement, the harmonic language of the suite does not rely on tertiary harmonies, and this permits aural space for the unique tuning of the xiao to be heard.²⁵⁶ Throughout the suite, most of the 'birdsong' occupies a realm without a pitch centre, and often this pitch-world is at odds with that of the 'atmosphere'. This has the dual effect of setting the programmatic bird apart from its natural surroundings and setting the xiao apart from the six other members of the ensemble, aiding in its distinction as soloist.

The metre of the 'birdsong' aspect of the suite is almost totally irregular. This is in part inspired by Native American music, in which flute and vocal melodies are set in irregular metre meant to imitate birdsong while percussion instruments play in regular metre, or body rhythm.²⁵⁷ Whereas the regular metre of Native American percussion may

²⁵⁶ See Chapter 5.1 for discussion of the tuning of the xiao.

²⁵⁷ See Chapter 2.1 for discussion of Native American rhythms.

appear to be at odds with Native American flute melodies, the metres of the two realms, ‘atmosphere’ and ‘birdsong’, in *Bird Suite* are more complimentary than contrasting.

Keeping in mind the aggressive articulation in Messiaen’s *Le Merle Noir* which successfully evokes birdsong, alternative tonguing on the xiao was explored during the composition of *Bird Suite*. This resulted in the arrival at alternate methods of articulation, notated in the score with the letters, ‘h’ and ‘k’, and the word ‘tut’. Examples of this notation are shown in Figure 65.

Fig. 65 ‘k’, ‘t’, ‘tut’, and ‘h’ articulations, ‘Loons on the Lake’, bars 38-43

The figure shows a musical score for two parts: Xiao and Voice. The Xiao part is in the upper staff, and the Voice part is in the lower staff. The score is for bars 38-43. The Xiao part starts with a rest in bar 38, followed by notes in bar 39 with articulations 'k', 't', 'k', and 'tut'. Bar 40 has a 'fluttertongue' marking above the notes, with 'k', 't', and 'tut' below. Bar 41 has an 'h' marking above the note. The Voice part has rests in bars 38 and 39, and notes in bars 40-43. Dynamics are marked as *p* (piano) in bars 40 and 43, and *mp* (mezzo-piano) in bar 41. A note in bar 42 has a *p* dynamic marking. The instruction '(sing into xiao, unless there are lyrics)' is written below the voice staff.

The letter ‘h’ appears in the score when the note should begin without any articulation, but rather an aspiration. The letter ‘k’ indicates that a note is to be articulated with the back of the tongue. Where ‘k’ is notated in *Bird Suite*, it is followed by a ‘t’, a reminder to return to ordinary tonguing. Flutists regularly use the back of the tongue when double tonguing, alternating front and back for speed; however, to begin a phrase with the back of the tongue produces a harsher sound than the ‘k’ sound produced in double tonguing. This harsher sound is even more prominent on the xiao than the western concert flute. The notation ‘tut’ means that the note should start and end with the front of the

tongue. Closing the note with the tongue results in a sharp, percussive stop. The ‘tut’ articulation performed on the xiao also produces a more distinctive sound than on the western concert flute.

The five movements of *Bird Suite* are comprised of two pairs of like movements surrounding a middle movement. The first and fourth movements, ‘Listen for the Birds’ and ‘Dancing Owl’, are similar in texture, and the ‘atmosphere’ is firmly established by the ensemble before the entrance of the xiao with ‘birdsong’. The second and fifth movements, ‘Woodpecker’s Song’ and ‘Shore Birds’, are energetic and less chromatic than the other three movements. In these movements the ensemble plays more of a role in the depiction of birdsong. The third movement, ‘Loons on the Lake’, is for xiao solo, and stands apart from the rest of the suite in its harmonic language and creation of atmosphere, as well as its instrumentation and the use of vocalisation while playing.

In the process of composing *Bird Suite*, personal exploration of the instrument has led to the discovery and production of new sounds for the xiao, which include vocalisation, quarter-tone bends (also used in *Zephyr* and *Cloud Shadows*), and the ‘h’, ‘k’ and ‘tut’ articulations. The timbre and embellishments of the xiao are complimented by extended techniques in the string quartet and the percussion. In particular, the pizzicato imitates the lift-off. The balance of texture, instrumentation, and dynamics allows the xiao to emerge as a soloist. Set in harmonic language that is not idiomatic to Chinese traditional music, *Bird Suite* offers new opportunities of expression for the xiao.

8.1
Bird Suite 1. 'Listen for the Birds'
Percussion I: tam-tam, snare drum, triangle
Percussion II: triangle, rain stick, two wood blocks

In 'Listen for the Birds', the xiao occupies a separate harmonic and textural realm from the rest of the ensemble. Thus in the first movement of the suite, the xiao is immediately distinguished as a lead character. Extended techniques in the strings further distinguish the two realms.

'Listen for the Birds' begins with the creation of atmosphere through the use of extended technique in the percussion and the strings: the edge of the tam-tam is scraped with a triangle beater sounding a dramatic start to the suite as a whole, and the string quartet plays 'air noise' (a technique resulting in a breathy sound with a hint of pitch) as the performers audibly exhale. The combination of the air noise and exhalation creates a sound like the wind in the trees. No definite pitch is sounded by the ensemble until the entrance of the xiao in bar 23. The silence that precedes the first sound from the xiao recalls the quiet expectation we experience in nature when we listen for the sound of a bird call.

The first melodic gesture of 'Listen for the Birds' (and so of *Bird Suite* as a whole) is an expression of a fourth plus a semitone by the xiao. This utterance, as well as much of the material played by the xiao throughout the movement, is short and clipped, as are many of the calls heard in nature. The special 'tut' articulation, as well as fluttertongue, are used frequently in the movement to evoke the sound of a bird. The texture and articulation in the

strings remains distinct from that of the xiao. The two realms, ‘atmosphere’ and ‘birdsong’, remain separate, allowing the xiao to emerge from the ensemble in a soloistic role.

The xiao continues to ‘chirp’ above the atmospheric sounds with minimal pitch material delivered by the strings until bar 97, when a unison and doubled G is sounded, which develops into a relatively stable D-G-A-D chord in bars 102-5. One of several examples of the xiao leading harmonic direction is found in bars 106-9, in which any residual weight of the unison G followed by the D chord is immediately offset by the xiao’s G sharp. It is the G sharp which directs the strings to the next chord, F sharp-C sharp-G sharp-C sharp. A second example is found in bars 138-40, in which the xiao moves up a semitone, and this shifts the chord in the strings up a whole-tone.

Beginning in bar 150, the xiao begins to participate in the harmony produced by the strings as it plays a longer, not clipped, melodic line whose structural outline is E-A-D. The long line continues, occasionally interrupted by short clips of birdsong which resemble but do not duplicate the fourth plus semitone motive, as is seen in bars 203-04 and 217-9 (see Figure 66 and 67).

Fig. 66 ‘Listen for the Birds’, bars 203-04



Fig. 67 'Listen for the Birds', bars 217-9



In bars 273-84, the xiao delivers a final long melodic line, ending on D, which feels like a pitch centre. The strings had foreshadowed the cadence with a chord with D as its root, in bars 269-71. The D in bars 282-4 is unsupported by any vertical stability, as the strings return to the air noise and the exhalation. The sound of 'wind in the trees' followed by bars of silence has the listener waiting once again for the sound of birdsong, which concludes the movement.

8.2

Bird Suite 2. 'Woodpecker's Song'
Percussion I: bell tree; Percussion II: tambourine

'Woodpecker's Song', as the name suggests, is a percussive movement, characterised by repeated pizzicato pitches in the strings and short clips of birdsong in the xiao. The sounds of the woodpecker's drumming mingle with his call, and the realms of 'atmosphere' and 'birdsong' are not totally discrete in this movement. Nonetheless, the xiao primarily directs the forward progression in the movement.

Throughout much of 'Woodpecker's Song', the regular drumming of the woodpecker is depicted by the strings, not the percussion. The tambourine often plays thumb rolls, a technique of imprecise rhythm meant to convey irregularities which occur in nature, and the bell tree serves to accent and punctuate the birdsong. As in the first movement, 'Listen for the Birds', the birdsong is depicted with short bursts in the xiao, but here large intervalllic leaps are incorporated into the bursts. This introduces a division of register which is more fully explored in the third movement of *Bird Suite*. The wide intervals and repeated staccato notes featured throughout the movement are highly uncharacteristic of Chinese traditional music, and offer a new mode of expression for the xiao.²⁵⁸

²⁵⁸ See Chapter 5.1 for discussion of Chinese folk music.

‘Woodpecker’s Song’ is a type of rondo, with the opening theme developed and repeated in transposition. Sections B and B¹ introduce the xiao as soloist, and in sections C and C¹ the xiao plays longer lines in place of the birdsong motive.

Fig. 68 ‘Woodpecker’s Song’, structural form

A	B	B¹	A¹	C	A¹	C¹	Transition	A¹
bb. 1-9	10-17	18-22	23-31	33-51	52-62	63-72	73-79	80-90

The movement begins with the xiao sounding a D, the pitch which ended final cadence of the previous movement. The D in the xiao is played as a harmonic, and so the D is not pure, it has a hint of G in it. G emerges as the pitch centre as the strings gradually fill out the chord G-C-D-G, and the vertical stability establishes the initial atmosphere of the movement. With pizzicato repetition in the strings and no semitones yet in the birdsong of the xiao, the forward momentum is entirely rhythmic until bar 10, when the xiao introduces semitones.

So as not to obscure the birdsong played by the xiao in bars 10-22, the dynamics of the strings and percussion are lowered and the texture thinned. The bell tree is hand muted, the strings tap the bodies of the instruments and play harmonics, and the ensemble plays piano against the mezzoforte xiao. The rhythmic accents within the parts are offset, mitigating the regularity of the metre and creating a sense of aural space. Expressions of the fourth plus a semitone motive lie within the chromatic melody, for example in bar 13 (see Figure 69).

Fig. 69 ‘Woodpecker’s Song’, bar 13



From bar 33, the realms of ‘atmosphere’ and ‘birdsong’ are reversed. The xiao plays long melodic lines with fourths as structural notes, and the strings imitate the birdsong texture and motives. Here the progression is led by the strings, and the pitch centre remains firmly on F until bar 48. The harmonies are non-chromatic, and the forward momentum is achieved through rhythmic means, via syncopation and offset accents. The reversal of ‘atmosphere’ and ‘birdsong’ occurs a second time, beginning in bar 63, transposed to B.

In bars 49-52, the xiao regains its role as director of horizontal progression and leads the ensemble via a series of fourths to a new pitch centre. There follows a reprise of the refrain, now transposed to A-D-E-A. The repeated pizzicato renews the vertical stability, and forward momentum is achieved via birdsong played by the xiao.

The final statement of the refrain begins in bar 80. As in the A¹ section of bars 23-31, it has C as a pitch centre. Whereas, in bar 31 the xiao leads the harmonic progression up a fourth to a pitch centre F, in the final bars the xiao leads down a fourth to pitch centre G, and the movement concludes in the tonality in which it began.

8.3

Bird Suite 3. 'Loons on the Lake'

Strings and Percussion tacet

'Loons on the Lake' stands apart from the other movements of 'Bird Suite' in its instrumentation and harmonic language. It is written for xiao solo, and the xiao establishes the separate realms of 'atmosphere' and 'birdsong' without the aid of the ensemble. This is accomplished through register shifts and distinction of melodic material. Bird calls are prominent throughout the movement, and the thematic thread of the suite as a whole is maintained.

Inspiration for the composition of 'Loons on the Lake' was found in three works for solo flute: *Le Merle Noir* by Olivier Messiaen, Sonata in A minor for Flute Solo by C.P.E. Bach, and Sequenza I by Luciano Berio. In these works, the sonic expression of the flute is expanded through the use of large interval leaps and extended technique.

Messiaen's notation of bird calls from nature influenced *Bird Suite* as a whole, but most especially 'Loons on the Lake'. Of particular influence was the fast moving section labelled 'Vif', the final third of *Le Merle Noir*, which features octave displacement and staccato semiquavers in an irregular metre. An excerpt from the work is shown in Figure 70.

Fig. 70 Example from *Le Merle Noir*²⁵⁹



Whereas *Sequenza I* and *Le Merle Noir* employ registral extremes and large intervallic leaps for dramatic and motivic effect, Bach's *Sonata in A minor* uses the techniques as a structural device. Through separation of registers, two lines of melody are formed, creating the illusion of polyphony performed on a monodic instrument. The first bars of the *Poco Adagio* movement and a few bars from the *Allegro* movement serve as examples, and are shown in Figures 71 and 72.²⁶⁰

Fig. 71 C.P.E. Bach Sonata, Poco Adagio, bars 1-4

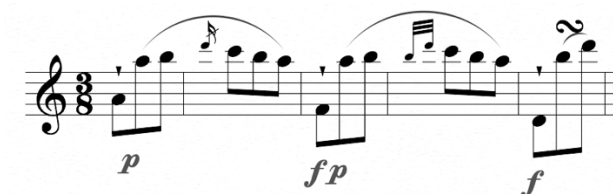
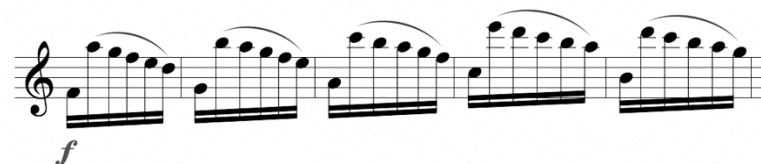


Fig. 72 C.P.E. Bach Sonata, Allegro



²⁵⁹ Olivier Messiaen, *Le Merle Noir* (1952). Alphonse LeDuc. Music manuscript.

²⁶⁰ C.P.E. Bach, *Sonata für Querflöte Solo in A-moll* (ca. 1747). Edition 1978. Bach, C.P.E. Amadeus. Music manuscript.

In 'Loons on the Lake', wide interval leaps are used as a structural device, to distinguish the 'atmosphere' and 'birdsong' realms, as well as for dramatic enhancement of material evoking bird calls.

'Loons on the Lake' has as its goal the exploration and expansion of the extreme capabilities of the xiao, much in the same manner that Sequenza I explores technical extremes on a western concert flute. Novel ways of producing sound on the xiao are incorporated, including vocalising while playing and the special articulations, 'h', 'k', and 'tut'. While these techniques are frequently used in contemporary western art music for flute, my research has not revealed their application in playing the xiao.

The movement begins in a similar manner to 'Listen for the Birds', in that a relatively still atmosphere is created, followed by silence. A moment of quiet expectation precedes the initial bird call. The first note of the movement is D4, the lowest note on the xiao, and arguably the most sonorous. The lowest tetrachord of the xiao defines the 'atmosphere'. The sonority of these pitches has a grounding effect, and indeed, D is the pitch centre of the movement as a whole.

With the first pitch, instruction is given to allow the pitch to fluctuate with dynamic change. When the same D4 is performed ordinario in bars 3-5, a disturbance in the pitch occurs with vocalisation on D3 and E3. The 'atmosphere' established in the first bars may be characterised by stillness, but it is not static.

The discovery of which pitches work optimally when vocalising into the xiao, as well as how this technique might best be executed, required me to experiment quite a bit.

The range below the xiao's lowest notes was chosen for two reasons: first, it distinguishes the voice from the xiao, and secondly, my own vocalisation into the xiao around D4 produces a buzzing sound which is not suitable for this movement. My vocal range is low for a woman, and not all women will be able to vocalise on a D3. If the D3 is not available to a performer, the vocalisation may be transposed up an octave. At the time of this writing, it is not yet known if such a transposition would change the sound in a negative way or create the undesirable buzzing that I experienced in my experiments.

The start and stop of vocalisation while playing the xiao has the potential to sound abrupt and carries a weighted accent, due to a glottalisation at the start of the sung note combined with the tongued articulation of the note played on the xiao. Thus, two different devices are used to soften the edges of the vocalised notes. Experimentation proved that it is much more subtle to begin a vocalisation without a glottal attack once the xiao note has already begun. Therefore, in bars 3-5 and bars 9-11, the vocalisation begins after the xiao note has begun, and ends before its completion. In this manner, the tonguing used to initiate the xiao note is not coupled with a glottalised start to the vocalisation.

Fig. 73 'Loons on the Lake', bars 1-11

Quite freely, contemplative $\text{♩} = 69$

allow pitch to fluctuate with dynamic change

ord.

Xiao

$p < f > p$

ppp

mf

$p < f > p$

ppp

tut tut

allow pitch to fluctuate with dynamic change

ord.

Voice (sing into xiao, unless there are lyrics)

$pp < mp > ppp$

$pp < p > ppp$

The second device used to soften the vocal entrance is found in bar 17 (see Figure 74).

Here the xiao and the vocalisation begin at the same time, and the instruction to begin the xiao note without tongued articulation is given, as indicated by the letter ‘h’.

Fig. 74 ‘Loons on the Lake’, bars 17-8

17

Xiao

h

Voice
(sing into xiao,
unless
there are lyrics)

pp < *mp*

In contrast with the other movements of *Bird Suite*, the harmonic language of ‘Loons on the Lake’ is built on tertiary harmonies in both the ‘atmosphere’ and ‘birdsong’ realms, rather than vertical simultaneities of fourths in one and horizontal expressions of a fourth plus a semitone in the other. ‘Loons on the Lake’ is linked structurally and motivically with the other movements of the suite through the establishment of a stable ‘atmosphere’, in this case grounded by register and a firm pitch centre, which is interrupted by a registrally distinct ‘birdsong’ in an irregular metre.

8.4
Bird Suite 4. 'Dancing Owl'
Percussion I: crotale, snare drum, suspended cymbal
Percussion II: three wood blocks, shaker

The fourth movement of *Bird Suite*, 'Dancing Owl', may be paired with the first movement, 'Listen for the Birds', in that they are similar in texture and both establish the 'atmosphere' well before the entrance of the xiao with the 'birdsong'. Extended techniques played by the xiao include quarter-tone bends, lift-off, and the 't', 'k', and 'tut' articulations.

'Listen for the Birds' starts with the atmospheric sound of wind in the trees; 'Dancing Owl' begins with the sounds of a dense forest at night. The dramatic sound of scraping the edge of the tam-tam that starts the first movement is replaced with the eery sound of a bowed crotale, and the air noise in the strings is replaced with *sul ponticello* tremolo and *pizzicato*.

The 'birdsong' played by the xiao dominates bars 17-78 of 'Dancing Owl'. The texture in these bars is extremely sparse and of a low dynamic, with *pizzicato* in the strings and finger tapping on the wood blocks. This allows the introduction and development of the theme to be heard and absorbed by the listener without obstruction.

Unlike the first and second movements, in which the 'atmosphere' is clearly delineated via stable, open-spaced chords, the 'atmosphere' established in bars 1-10 of 'Dancing Owl' does express the musical cell of a fourth plus a semitone (bars 1-6 are shown in Figure 75). It is not until bar 15 (shown in Figure 76) that a vertical fourth chord is sounded, and the 'birdsong' and 'atmosphere' are differentiated. Followed by silence,

this sets the stage, as it were, for the dramatic entrance of the xiao with ‘birdsong’. The xiao plays two pitches belonging to the fourth chord, F sharp and B, but then bends the pitch down a quarter-tone, suggesting a fourth plus a semitone, and the distinction of the realms is made clear.

Fig. 75 ‘Dancing Owl’, bars 1-6

Peaceful but eery $\text{♩} = 72$

Xiao

Percussion I

Percussion II

Violin I

Violin II

Viola

Cello

Low Crotales placed on edge of Snare Drum (snare off)
bow the edge of the crotales

let vibrate

3 Wood Blocks

rubber mallets

bow crotales

pizz.

sul ponticello

pizz.

arco sul ponticello

pizz.

pp < *mp*

mp

p

mp

mp

pp

mp

pp

mp

Fig. 76 'Dancing Owl', bars 12-8

The musical score for 'Dancing Owl', bars 12-8, is presented in a multi-staff format. The instruments and their parts are as follows:

- Xiao:** The top staff shows a melodic line with a quarter-tone bend indicated by a curved arrow. The dynamics range from *mf* to *f*.
- Percussion I:** The second staff features rhythmic patterns with specific techniques: 'bow crotale fast stroke' (marked *p*), 'move crotale' (marked *mf*), 'bow across drumhead', and 'choke'. A box indicates 'set crotale and keys aside'.
- Percussion II:** The third staff shows a rhythmic accompaniment.
- Violin I:** The fourth staff is marked 'arco' and features dynamics *mp*, *mf*, and *f*.
- Violin II:** The fifth staff is marked 'arco' and features dynamics *pp*, *p*, *mp*, *mf*, and *f*.
- Viola:** The sixth staff is marked 'arco' and features dynamics *p*, *mp*, *mf*, and *f*.
- Cello:** The seventh staff is marked 'arco' and features dynamics *p*, *mp*, *mf*, and *f*. A triplet of eighth notes is marked with a '3'.

The xiao further differentiates itself with a lift-off conclusion to the second statement of the bird call in bar 20. Thus, with its first two phrases, the xiao distinguishes itself by performing two special techniques available on the instrument, the quarter-tone bend and the lift-off. These in turn influence technique in the strings, creating a connection between the disparate instruments, as well the realms of 'atmosphere' and 'birdsong'. Pizzicato is complimentary in tone to the lift-off articulation, and the two are often sounded simultaneously throughout the movement. Indeed, the pairing is a prominent feature of the faster middle section, bars 78-121. The quarter-tone bend, a defining aspect of the first

statement of the xiao, is subsequently taken up by the strings, and the relative stability of vertical fourth chords (bars 51-4, for example, as shown in Figure 77) is somewhat mitigated by the aspect of motion which is inherent in the bends.

Fig. 77 'Dancing Owl', bars 49-54

The musical score for 'Dancing Owl', bars 49-54, is presented for four string instruments: Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.). The score is written in a single system with four staves. The key signature has one flat (B-flat), and the time signature is 4/4. The music consists of a series of vertical fourth chords. The dynamics are marked as *mf* (mezzo-forte) for the first two bars and *p* (piano) for the last two bars. The chords are played with a pizzicato effect, indicated by a > symbol above the notes. The notes in the chords are: Vln. I (G4, Bb4), Vln. II (F4, Ab4), Vla. (E3, G3), and Vc. (D2, F2). The notes are tied across the four bars, with a slight upward bend indicated by a curved arrow above the notes in the second and fourth bars.

When the opening soliloquy of the xiao concludes in bar 78, the strings take on more of a role in establishing the stable 'atmosphere'. Fourth chords are played pizzicato, and the xiao distinguishes itself with the aggressive articulations, 'k' and 'tut'.

In contrast to the first section of the movement, pitch takes on more of a defining role than intervallic relation in the faster section, beginning in bar 78; the section begins with a tonicisation, albeit momentary, of D. As in the first and second movement, vertical stability is established by fourth chords, and semitone movement in the horizontal regularly informs the vertical chord structure.

8.5
Bird Suite 5. 'Shore Birds'
Percussion I: ocean drum, thunder tube
Percussion II: bass drum, suspended cymbal

'Shore Birds' brings an energetic ending to *Bird Suite*, featuring cacophonous bird calls and dramatic percussion. 'Shore Birds' and 'Woodpecker's Song' are similar in that they have faster tempos than the other three movements, the realms of 'atmosphere' and 'birdsong' are not totally discrete, and the strings play a prominent role in the depiction of bird call. Whereas the xiao is a soloist in the first four movements of *Bird Suite*, in this movement it is an equal participant in the ensemble.

In 'Shore Birds', the 'birdsong' is delivered mainly by the strings. Extended technique is used to evoke bird calls, such as the 'seagull glissando', semitone bends, and col legno battuto jeté. The xiao and percussion provide the 'atmosphere', the sounds of the sea. The xiao plays long lines of melody which evolve into a sort of sea shanty, and the percussion produces sounds of waves, rolling surf, and thunder. Two percussion instruments in particular are responsible for the sound of the sea: the ocean drum and the thunder tube.

An ocean drum is a double-sided hand drum filled with metal beads. The skins of the drum are played with fingertips. When held horizontally and rolled in the circular motion, the metal beads create a sound similar to ocean waves. The drums come in several sizes; 'Shore Birds' calls for a forty centimetre drum. Images of ocean drums are shown in Figures 78 and 79.

A thunder tube is a cylindrical one-sided drum with a metal spring fixed to the centre of the drum head. When the spring is pulled, a loud noise resembling thunder or a

large wave is produced. The sound can be sustained either by rocking the tube about thirty degrees in either direction or by waving an open hand over the open end of the drum.

Images of a large thunder tube are shown in Figures 80 and 81.

Fig. 78 An ocean drum, 40 centimetres in diameter²⁶¹



Fig. 79 Ocean drums in various sizes²⁶²



²⁶¹ Photo by the author, with the cooperation of Gandharva Loka Music Store, Dublin.

²⁶² Ibid.

Fig. 80 Large thunder tube, short snap position²⁶³



Fig. 81 Open top of a thunder tube²⁶⁴



²⁶³ Photo by the author, with the cooperation of Gandharva Loka Music Store, Dublin.

²⁶⁴ Ibid.

The first twenty-two bars of 'Shore Birds' convey the image of a bevy of birds on the shore all singing at once. Deliberate attempt was made to eschew any pitch centre or sense of metre in these bars, in order to more faithfully imitate the sounds imagined. The seagull glissandi and quarter-tone and semitone bends obscure definite pitches. Similar to the rhythmic imprecision of the thumb roll used in 'Woodpecker's Song', *col legno battuto jeté* is used to produce an irregular percussive sound, in imitation of a magpie.

The 'birdsong' motive (a fourth plus a semitone), which is featured throughout the suite, appears in fragmented form in the cacophonous opening bars of 'Shore Birds'. The many tritones and semitones allude to the motive without fully expressing it. The one instance it appears intact, in bars 4 and 5, it is played by the xiao, not the strings.

Fig. 82 'Shore Birds', bars 4-5

The musical score for 'Shore Birds', bars 4-5, is presented in a multi-staff format. The instruments and their parts are as follows:

- Xiao:** Plays a melodic line in bar 4, marked *mp*. The notes are G4, A4, B4, and C5.
- Perc. 1:** Remains silent in bar 4. In bar 5, it plays a rhythmic pattern marked *p*.
- Perc. 2:** Plays a rhythmic pattern in bar 4, marked *p*, with a *rim* (rimshot) indicated. In bar 5, it plays a more complex rhythmic pattern, also marked *p*.
- Vln. I:** Plays a melodic line in bar 4, marked *mp*. The notes are G4, A4, B4, and C5.
- Vln. II:** Plays a melodic line in bar 4, marked *p*. The notes are G4, A4, B4, and C5.
- Vla.:** Plays a melodic line in bar 4, marked *p*. The notes are G3, A3, B3, and C4.
- Vc.:** Plays a melodic line in bar 4, marked *p*. The notes are G2, A2, B2, and C3. In bar 5, it plays a rhythmic pattern marked *p*, with the instruction *col legno battuto jeté* above the staff.

A loud burst of sound with a snap of the thunder tube marks the transition from irregular metre without pitch centre to a section in 12/8 with pitch centre E (shown in Figure 83). From bars 40-163, the ‘atmosphere’ is the dominant feature, with only intermittent bird calls.

Fig. 83 ‘Shore Birds’, bars 39-44

The musical score for 'Shore Birds', bars 39-44, is presented in a multi-staff format. The tempo is 12/8. The score includes staves for Xiao, Perc. 1, Perc. 2, Vln. I, Vln. II, Vla., and Vc. The tempo is 12/8. Dynamics range from *ff* to *ppp*. Performance instructions include 'Thunder Tube', 'long snap', 'sustain with rocking motion', 'short snap', and 'move hand up and down over opening'. The score is marked with a tempo of 12/8 and a dynamic of *ff* at the beginning. The score includes staves for Xiao, Perc. 1, Perc. 2, Vln. I, Vln. II, Vla., and Vc. The tempo is 12/8. Dynamics range from *ff* to *ppp*. Performance instructions include 'Thunder Tube', 'long snap', 'sustain with rocking motion', 'short snap', and 'move hand up and down over opening'.

Bar 45-70 are governed by E phrygian. With melodic emphasis on the lower half of the scale and the semitone between the first and second degrees, this produces a harmonic relation to the melodic birdsong motive of a fourth plus a semitone, which can be expressed E-F-B, as well as to the many semitones in the first section of the movement.

Differences in articulation and register allow the xiao to be heard within the context of the rest of the ensemble throughout the section in E Phrygian. Relative dynamics are

used in bars 58-132, with louder dynamic markings for the xiao. Examples of articulation used to distinguish the xiao include the mordent in bar 45, fluttertongue in bars 53-5, and the sharp ‘tut’ tongue articulation in bar 66-7. The ‘tut’ articulation is shown in Figure 84.

Fig. 84 ‘Shore Birds’, bars 65-9

The musical score for 'Shore Birds', bars 65-9, is presented in a multi-staff format. The top staff is for the Xiao, starting at bar 65 with a dynamic marking of *mf*. It features four 'tut' articulations over the first four measures. The Percussion 1 staff includes Thunder Tube and Sus. Cymbal, with a dynamic marking of *mp*. Percussion 2 includes LH: wire brush and Bass Drum, with a dynamic marking of *p*. The string parts (Violin I, Violin II, Viola, and Cello) are marked with a dynamic of *p*. The Cello part has a dynamic marking of *mp* at the beginning of the section.

In bars 142-9, the strings play at different dynamic levels from each other. This is not to effect balance, but rather to evoke the frolicking waves of the sea.

‘Shore Birds’ ends with a return to the serenity expressed in the opening bars of the first movement, ‘Listen for the Birds’. The ocean drum plays a slow swirl as the xiao plays bird calls which make reference to the opening motives of the first movement. Though the

realms 'atmosphere' and 'birdsong' are not discrete in 'Shore Birds', as all members of the ensemble play material from both realms, the final sounding of 'birdsong' reiterates the distinction one last time, and the listener is left with a reminder of bird calls expressed by the xiao throughout the suite.

8.6 Reflections on Bird Suite

Bird Suite is the culmination of this portfolio in terms of scope and scale. Though the work is written for seven players, the varying percussion has the effect of broadening the instrumentation beyond that number. In the course of the five movements, the xiao is placed in multiple settings, as strings perform various techniques including pizzicato, harmonics, finger tapping, pitch bends, and glissandi, and the percussionists play different instruments in each movement.

Knowledge of traditional music and performance practice for the xiao certainly informed the composition of the suite. Close study of the idioms of the instrument provided a foundation upon which to build further modes of expression. The musical material of the suite, however, does not allude to traditional Chinese music. Personal exploration of and experimentation on the xiao enabled me to discover new sounds for the instrument, and Irlandini's term 're-significance' is brought to mind.²⁶⁵

I was able to draw upon and transfer my skills as a western concert flutist and apply them to exploration of new material for the xiao. Application of techniques that are commonly played on the western concert flute include harmonics, vocalisation, martellato, fluttertongue, and the aggressive 'k' articulation using the back of the tongue.

Central among the aims when writing the suite was to allow the distinct timbre of the xiao to bring a distinguishing sound to the ensemble. The full range of its registers are utilised, and the texture and the harmonic material of the suite as a whole allows the aural

²⁶⁵ Luigi Antonio Irlandini, 'Non-Western musical instruments and contemporary composition', *ISSUU Digital Publishing*, (2020), p. 3. https://issuu.com/gaudeamusmuziekweek/docs/non-european_musical_instruments_and_contemporary_Web. Accessed 30 November 2020.

space for the xiao to be played in its customary tuning, while the strings played in equal temperament. Extended techniques played by the strings bridge timbral gaps between the quartet and the xiao and contribute to the balance of the ensemble. The division of the music material into two realms, 'birdsong' and 'atmosphere', has the overall effect of defining a soloistic role for the xiao.

Two pairs of like movements surrounding a middle solo movement offer a range of expression, as each movement has its own instrumentation, structure, and themes. The centuries old structural form of the suite is partnered with a non-orchestral instrument and a wide range of percussion, offering a new interpretation for the time honoured form.

9 Conclusion

Before integrating ethnic instruments into my compositions, I asked the question, ‘Is the instrument fundamentally changed if we divest it of its original context?’ One thing is clear: the mechanics of the instrument will not change. For instance, the quick decay of sounds produced on the santoor and tar will not lengthen, and the range of the Native American flute will remain an octave and a half, no matter what is written into the score. Whether an uilleann piper is in County Cork or California, the bellows will still be pumped by the elbows.

Familiarisation with the traditions and techniques of an instrument allows for its defining aspects to be celebrated in music written especially for it. Knowledge of finger articulation on the uilleann pipes, for example, presents the composer with many options for expression that are not available without this knowledge. If this particular technique is not utilised, however, then those intimate with the uilleann pipes may feel something in the music is missing, that the composer may have missed an opportunity.

Just as Irlandini recognises that intimate knowledge of an instrument is a ‘collateral advantage’ to the composer, he also writes that exploring new sounds on the instrument, sounds that do not draw upon its tradition, may yield artistic fruit. Acknowledging that ‘traditional knowledge is of the essence’, he suggests that exploring an instrument without prior knowledge of its tradition may result in previously unexpected sounds, and this may result in a ‘re-significance’ of the instrument.^{266, 267}

²⁶⁶ Luigi Antonio Irlandini, ‘Non-Western musical instruments and contemporary composition’, *ISSUU Digital Publishing*, (2020), pp. 34-8. https://issuu.com/gaudeamusmuziekweek/docs/non-european_musical_instruments_and_contemporary_Web. Accessed 30 November 2020.

²⁶⁷ *Ibid*, p.3.

The compositions in this portfolio draw upon the original contexts of the instruments for musical material as well as offer new modes of expression. When direct allusions to traditional music are made, they are expanded upon through the cultural exchange in the ensemble. For example, in *Hope* the idiomatic juxtaposition of ‘body’ and ‘speech’ rhythms is placed in a new context as it defines the opening bars of the piece. In *Zephyr*, the elaborate embellishments and prevalence of minor thirds which characterise Chinese music are complemented by extended technique in both the cymbal and the cello. However, in both *Hope* and *Zephyr*, the Native American flute and the xiao, solo instruments by tradition, perform as equal participants in an ensemble.

The compositions present a range of new and non-idiomatic material for the instruments. In *Under a Cobalt Sky*, for example, the tar and the santoor, which typically play non-polyphonic, melodic music, here participate in the generation of harmonic material, and the santoor performs extended techniques, striking chords in unconventional ways. *Soft-spoken Power*, a piece to be performed in equal temperament despite it being monodic, deviates a great deal from idiom. The Native American flute performs energised, chromatic music of a quick tempo with aggressive articulation, which is beyond the expected meditative or hypnotic range of expression. In *Moving Toward Home*, the uilleann piper encounters a novel way to use the regulators. New notation was developed for the xiao in order to indicate atypical articulation. Throughout *Bird Suite*, the special articulations ‘k’, ‘tut’, and ‘h’ are notated with letters above the notes. Further experimentation on the xiao yielded an additional new technique, namely the vocalisation in the third movement of *Bird Suite*, ‘Loons on the Lake.’

The ethnic instruments included in my compositions do not typically perform in equal temperament. This fact is addressed in different ways, depending on the aesthetic needs of the composition. Whereas *Hope* and *Soft-spoken Power* ask the Native American flutist to perform in equal temperament, five of the compositions provide the textural space for alternate tuning to be heard and to enhance the harmonic world, and *Cloud Shadows* specifically asks the instrumentalists to perform in the tuning system which is natural to the instrument. While microtonality is no longer especially rare in contemporary western art music, exposure to instruments with alternate tuning systems broadens the western art musician's harmonic world beyond that of equal temperament.

There is a cross-cultural exchange between the compositions as well. For example, the lift-off, a common embellishment in both Native American and Chinese folk music, is applied to the wind parts in *Hope*, *Glissade* and *Cloud Shadows*, and imitated by the strings in *Bird Suite*. The technique is not typically notated in either Chinese or Native American music, and it is something with which few western musicians are familiar. I developed a notation for the embellishment, and explain the technique in the glossaries accompanying the scores. A second example of cross-cultural exchange is found in the irregular rhythms played by the xiao in *Bird Suite*, which are in part inspired by rhythms characteristic of Native American flute music. The concept of speech rhythm as appropriate for flute writing had been internalised, and became part of my approach to writing for all flutes, regardless of genre. The speech rhythms in the suite are not a deliberate reference to Native American music, but rather an example of the way in which our creativity is enhanced by exposure to other cultures.

Through the imitation of timbre, the western art musicians are invited to focus on and appreciate the new sounds included in the ensembles. In *Under a Cobalt Sky*, for instance, the clarinet and violin imitate the quick delay of the tar and the santoor with staccato and pizzicato; and the cello and suspended cymbal imitate the breathy tone of the xiao in *Zephyr*. As noted above, in the third movement of *Bird Suite* the pizzicato violins echo the lift-off, a special technique which is idiomatic to the xiao. Through articulation and technique, a timbral bridge is created between differing genres.

The compositions are often sparsely textured, and this brings three benefits. First, the balance of the ensemble is maintained, and the ethnic instruments are not overpowered. Second, the texture allows the instruments to be introduced individually, inviting the listener to appreciate the new sound or new context. Lastly, the sparse texture allows the aural space for the alternate tuning of the ethnic instruments to be heard and appreciated.

Of the seven instruments included in this work, the flutes were explored to greater depth than the uilleann pipes, santoor, and tar, as they each appear in more than one composition: the Native American flute and the xiao are each featured in three compositions, and the tin whistle in two. This has mainly to do with the fact that I am a western concert flutist. I own several models of each of the flutes, and so was able to experiment and gain knowledge on a first-hand basis. A growth in understanding the xiao, in particular, may be noted in the progression from *Zephyr*, a short trio, to *Bird Suite*, a work for seven musicians and a wide range of percussion instruments, which offers a broader range of musical material in the variety of its five movements.

The possibilities for further exploration of these instruments and integration of their traditions are of course, myriad. A composition for Native American flute, for example, may incorporate vocalists singing ‘down in the throat’, as is characteristic of the genre. The new means of utilising the regulators of the uilleann pipes as seen in *Moving Toward Home* may inspire other novel approaches to this feature. The dastgāh tunings of Persian instruments, which incorporate non-aleatoric microtones and traditionally occupy horizontal lines, could be applied to an ensemble with western orchestral string instruments, perhaps creating new vertical harmonies. Further application of extended techniques of the western concert flute to the tin whistles and the xiao will produce a broad range of new sounds. Harmonics, in particular, may expand their timbral range.

To conclude, I refer once more to Irlandini, who recognises the value of exploring new sounds as well as drawing upon rich and long-standing musical traditions. When composing for an ethnic instrument, the well-researched composer shall strive to become an ‘active member of that instrument’s cultural history’, thereby honouring its past and present, and expanding its future.

APPENDIX A

Additional Photos

The author performing in Sin É, Dublin



Photo by Darius M.
Used with permission from DeMars Entertainment.

Native American flute with F sharp fundamental, six holes, and a smaller five hole flute, A fundamental

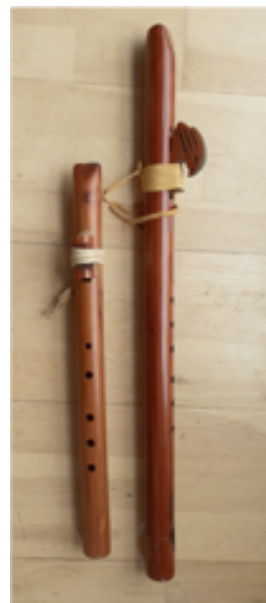


Photo by the author.

A tar player



Photo by M.Rahimov/Ministry of Culture and Tourism. Unesco. 2010. ich.unesco.org. Accessed 1 June 2020.

Shahab Coohe, holding his santoor, and Shayan Coohe, holding his tar



A student and his master



Photo used with permission from Shahab Coohe. Photo by House of Music Iran/Ministry of Culture and Tourism. Unesco. 2010. ich.unesco.org. Accessed 1 June 2020.

APPENDIX B

Examples of traditional Irish tunes transcribed in the key of G or D

The Blackbird²⁶⁸

The musical score for 'The Blackbird' is presented in two systems. Each system consists of a grand staff with a treble clef and a bass clef. The key signature is one sharp (F#), and the time signature is 4/4. The melody is written in the treble clef, and the accompaniment is in the bass clef. The first system contains measures 1 through 8, and the second system contains measures 9 through 16. The melody features a mix of eighth and sixteenth notes, with some triplet-like rhythms. The accompaniment consists of a steady bass line with occasional chords and rests.

The Silver Spear

The musical score for 'The Silver Spear' is presented in two systems. Each system consists of a grand staff with a treble clef and a bass clef. The key signature is one sharp (F#), and the time signature is 4/4. The melody is written in the treble clef, and the accompaniment is in the bass clef. The first system contains measures 9 through 12, and the second system contains measures 13 through 16. The melody is characterized by a series of eighth notes and quarter notes, with some triplet-like rhythms. The accompaniment consists of a steady bass line with occasional chords and rests.

²⁶⁸ The source for 'The Blackbird' is: Cowdery, *The Melodic Tradition of Ireland*. All other tunes in this appendix are from: Mitchell, *The Dance Music of Séamus Ennis*.

The Bucks of Oranmore

Musical score for 'The Bucks of Oranmore' in G major, 4/4 time. The score consists of three systems of music. The first system contains measures 41-44, the second system contains measures 45-48, and the third system contains measures 49-52. The music features a mix of eighth and sixteenth notes, with some measures containing triplets and slurs. The key signature has one sharp (F#), and the time signature is 4/4.

2. The Milliner's Daughter (1st)

Reel

Version outline

Musical score for 'The Milliner's Daughter (1st)' in G major, 4/4 time. The score consists of three systems of music. The first system contains measures 1-4, the second system contains measures 5-8, and the third system contains measures 9-12. The music features a mix of eighth and sixteenth notes, with some measures containing triplets and slurs. The key signature has one sharp (F#), and the time signature is 4/4.

1. Bonny Kate

Reel

Version outline

Musical score for 'Bonny Kate' in G major, 4/4 time. The score consists of three systems of music. The first system contains measures 1-4, the second system contains measures 5-8, and the third system contains measures 9-12. The music features a mix of eighth and sixteenth notes, with some measures containing triplets and slurs. The key signature has one sharp (F#), and the time signature is 4/4.

3. The Flannel Jacket

Reel

Version outline

Musical score for 'The Flannel Jacket' Reel. The score is written in treble clef with a key signature of one sharp (F#) and a 4/4 time signature. It consists of three staves of music. The first staff contains the first four measures, featuring eighth and sixteenth notes with triplets. The second staff contains measures 5 through 8, including first and second endings. The third staff contains measures 9 through 12, also including first and second endings. The piece concludes with a double bar line.

4. The Pipe on the Hob

Double Jig

Version Outline

Musical score for 'The Pipe on the Hob' Double Jig. The score is written in treble clef with a key signature of one sharp (F#) and a 6/8 time signature. It consists of four staves of music. The first staff contains the first four measures, starting with a repeat sign. The second staff contains measures 5 through 8, including first and second endings. The third staff contains measures 9 through 12, also including first and second endings. The fourth staff contains measures 13 through 16, including first and second endings. The piece concludes with a double bar line.

Appendix C

Suzhou Scenes

All closed = 5

姑蘇行

1=C (筒音作5) 4/4

昆曲曲調
江先渭編曲
鄭濟民訂譜

散板 優美 自由地 慢起漸快

mp $\dot{1}$ - - - $\underline{2\ 3}$ | $\underline{5}$ $\underline{5}$ $\underline{5}$ $\underline{5\ 3}$ | $\underline{\dot{1}}$ - - - $\underline{\dot{1}\ \dot{1}\ \dot{1}}$ | $\underline{\dot{1}}$ - - - *f*

$\underline{\dot{2}\ \dot{3}\ \dot{1}\ \dot{2}}$ $\underline{6\ \dot{1}\ 5\ 6}$ $\underline{3\ 5\ 3\ 2}$ $\underline{1\ 2\ 6\ 1}$ | $\underline{5}$ $\underline{4}$ $\underline{4}$ $\underline{4\ 5}$ | $\underline{3\ 2}$ - - - $\underline{6}$ $\underline{5}$ $\underline{\dot{1}}$ - - -

mf $\dot{1}$ $\underline{\dot{1}\ \dot{2}}$ $\underline{6\ \dot{1}}$ $\underline{5}$ | $\underline{3}$ - $\underline{3\ 3}$ $\underline{2}$ | $\underline{\dot{1}}$ $\underline{\dot{1}\ \dot{2}}$ $\underline{3\ 2}$ $\underline{5\ 7}$ | $\underline{6}$ - $\underline{6\ 6}$ $\underline{5}$ | $\underline{\dot{2}\ \dot{3}}$ $\underline{\dot{1}\ \dot{1}}$ $\underline{6\ \dot{1}}$ $\underline{5}$ |

$\underline{3}$ $\underline{5}$ $\underline{5\ 6}$ $\underline{\dot{1}\ \dot{2}}$ | $\underline{6\ 6}$ $\underline{5}$ $\underline{1\ 6}$ $\underline{2\ 4}$ | $\underline{3}$ $\underline{3\ 2}$ $\underline{3\ 5}$ $\underline{6\ \dot{1}}$ | $\underline{\dot{2}\ \dot{3}}$ $\underline{\dot{1}\ \dot{2}}$ $\underline{6\ \dot{1}}$ $\underline{5\ 6}$ | $\underline{3\ 6}$ $\underline{5\ 3}$ $\underline{1\ 6}$ $\underline{5\ 3}$ |

$\underline{2}$ - $\underline{2\ 2}$ $\underline{1}$ | $\underline{3\ 5}$ $\underline{6\ \dot{1}}$ $\underline{5\ 6}$ $\underline{3\ 5}$ | $\underline{2}$ - $\underline{2\ 2}$ $\underline{1}$ | $\underline{2}$ $\underline{5}$ $\underline{3}$ $\underline{6\ 5}$ | $\underline{\dot{1}}$ - - -

mp $\underline{\dot{2}\ \dot{3}}$ $\underline{\dot{1}}$ $\underline{\dot{1}\ \dot{2}}$ $\underline{\dot{3}\ \dot{2}}$ | $\underline{\dot{1}\ \dot{2}\ \dot{3}}$ $\underline{6\ 5}$ $\underline{3\ 2}$ $\underline{3\ 5}$ | $\underline{\dot{2}\ \dot{3}}$ $\underline{\dot{1}\ \dot{1}}$ $\underline{3\ 2}$ $\underline{5\ 7}$ | $\underline{6}$ - $\underline{6\ 6}$ $\underline{5}$ | $\underline{6\ \dot{1}}$ $\underline{\dot{2}\ \dot{3}}$ $\underline{\dot{1}\ \dot{2}}$ $\underline{6\ \dot{1}}$ |

$\underline{5\ 3}$ $\underline{2\ \dot{3}}$ $\underline{5\ \dot{3}}$ $\underline{5\ \dot{1}\ 7}$ | $\underline{6\ \dot{1}}$ $\underline{5}$ $\underline{1\ 6}$ $\underline{2\ 4}$ | $\underline{3}$ - $\underline{3\ 3}$ $\underline{2}$ | $\underline{3\ 5}$ $\underline{6\ \dot{1}}$ $\underline{5\ 6}$ $\underline{3\ 5}$ | $\underline{2}$ - $\underline{2\ 2}$ $\underline{1}$ |

$\underline{2}$ $\underline{5}$ $\underline{3}$ $\underline{6\ 5}$ | $\underline{\dot{1}}$ - - - | $\underline{\dot{1}}$ $\underline{\dot{1}\ \dot{5}}$ $\underline{\dot{3}\ \dot{2}}$ | $\underline{\dot{1}}$ $\underline{\dot{1}}$ $\underline{\dot{1}}$ $\underline{7\ 6}$ | $\underline{\dot{2}\ \dot{3}}$ $\underline{\dot{1}\ \dot{1}}$ $\underline{3\ 2}$ $\underline{5\ 7}$ |

$\underline{6}$ - $\underline{6\ 6}$ $\underline{5}$ | $\underline{6\ \dot{1}}$ $\underline{\dot{2}\ \dot{3}}$ $\underline{\dot{1}\ \dot{2}}$ $\underline{6\ \dot{1}}$ | $\underline{6\ 5}$ - - $\underline{3}$ | $\underline{6\ 6}$ $\underline{5}$ $\underline{1\ 6}$ $\underline{2\ 4}$ | $\underline{3}$ - $\underline{3\ 3}$ $\underline{2}$ |

3·7̇6̇1̇ 56 35 | 2 - 2 2 1 | *rit.* 2 5 3 6 5 | 2 1 - - 2 3 || *mf*

$\frac{2}{4}$
♩ = 114 (120)
5632 5356 | 1613 231 | 1 3 2321 | 6123 1216 | 5612 6165 | 3561 6532 | *mf*

161 1 3 | 212 2 23 | 535 5 56 | 1613 2321 | 6123 1216 | 5612 6165 |

3561 653 | 2·3 5165 | 4·5 321 | 2321 612 | 2 6 5·6 | 4·5 6·7 |

6·5 4·5 | 3 3 2 21 | 6 61 212 | 2 1 3 6 | 5653 212 | 2 1 2 56 | *f*

3532 161 | 1 12 3532 | 1235 2321 | 6123 1216 | 5612 6165 | 3561 6532 |

$\frac{4}{4}$
♩ = 60
1 3 2321 | 6 2 1265 | 1 12 3 5 | 1 6 1 2 | 5 5 5 5 3 | *mp*

1 1 1 2 3 2 | 1 1 1 6 | 2 3 1 1 3 2 5 7 | 6 - 6 6 5 | *mp*

6·1 2 3 1 2 6 1 | 5 - - 3 | 6 6 5 3 1 6 2 4 | 3 - 3 3 2 | *f*

3·7̇6̇1̇ 56 35 | 2 - 2 2 1 | *rit.* 2 5 3 6 5 | 2 1 - - - || *mp*

Suzhou Scenes

for solo flute

Chinese folk tune

Quite slowly and with a great deal of freedom ♩ = 56

transcr. Margaret Collins Stoop

3
mp *mf*

3 *mp* *f*

5 *tumbling freely* *accel.* *rit.* *a tempo* *tr.* *mp* *mf*

8 *In strict time ♩ = 60* *p* *mf* *p* *mf*

12 *tr.*

16 *f* *mf*

20 *tr.*

Suzhou Scenes

23 *rit.* *a tempo* *mp* *p* *mp* *tr*

28 *tr*

33 *tr* *rit.* *a tempo* *p*

37 *f* $\text{♩} = 84$

43 *tr*

47 *rit.* *a tempo* *mf* $\text{♩} = 116$ *mf*

52 *tr*

59 *f*

Suzhou Scenes

67  *p*

75 

82  *rit.* ♩ = 56

87  *p* *f* *mp* **In strict time** ♩ = 60

91  *mf*

96  *f* *mp* *pp* *rit.*

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Hope

Glossary and Performance Notes

Instrumentation: soprano, mezzo-soprano, western concert flute, Native American flute, clarinet in B flat, and one percussion player (quad toms and guiro)
The clarinet is notated one whole step above concert pitch.

Duration: 6'15"

In the composition and premiere performance of 'Hope', a cedar flute with an F# fundamental was used. The flute was manufactured by High Spirits Flutes, headquartered in Patagonia, Arizona.

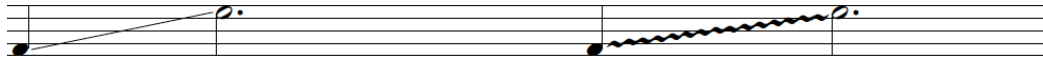
Performance Notes: The Native American flute is to be played in equal temperament. Along with embouchure and breath support, alternate fingering may be required to play in equal temperament. The chart below shows the alternate fingering used by the composer. AF indicates alternate fingering, and an arrow indicates preferred fingering. As Native American flutes are uniquely tuned, the chart may be used as a guide to play in equal temperament. AF indicates alternate fingering, and an arrow indicates preferred fingering.

The image shows a musical score for the Native American flute part of 'Hope'. The score is written on a single staff with a treble clef and a key signature of three sharps (F#, C#, G#). The notes are: G4, A4, B4, C5, B4, A4, G4, F#4, E4, D4, C4, B3, A3, G3, F#3, E3, D3, C3, B2, A2, G2, F#2, E2, D2, C2, B1, A1, G1, F#1, E1, D1, C1, B0, A0, G0, F#0, E0, D0, C0, B-1, A-1, G-1, F#-1, E-1, D-1, C-1, B-2, A-2, G-2, F#-2, E-2, D-2, C-2, B-3, A-3, G-3, F#-3, E-3, D-3, C-3, B-4, A-4, G-4, F#-4, E-4, D-4, C-4, B-5, A-5, G-5, F#-5, E-5, D-5, C-5, B-6, A-6, G-6, F#-6, E-6, D-6, C-6, B-7, A-7, G-7, F#-7, E-7, D-7, C-7, B-8, A-8, G-8, F#-8, E-8, D-8, C-8, B-9, A-9, G-9, F#-9, E-9, D-9, C-9, B-10, A-10, G-10, F#-10, E-10, D-10, C-10, B-11, A-11, G-11, F#-11, E-11, D-11, C-11, B-12, A-12, G-12, F#-12, E-12, D-12, C-12, B-13, A-13, G-13, F#-13, E-13, D-13, C-13, B-14, A-14, G-14, F#-14, E-14, D-14, C-14, B-15, A-15, G-15, F#-15, E-15, D-15, C-15, B-16, A-16, G-16, F#-16, E-16, D-16, C-16, B-17, A-17, G-17, F#-17, E-17, D-17, C-17, B-18, A-18, G-18, F#-18, E-18, D-18, C-18, B-19, A-19, G-19, F#-19, E-19, D-19, C-19, B-20, A-20, G-20, F#-20, E-20, D-20, C-20, B-21, A-21, G-21, F#-21, E-21, D-21, C-21, B-22, A-22, G-22, F#-22, E-22, D-22, C-22, B-23, A-23, G-23, F#-23, E-23, D-23, C-23, B-24, A-24, G-24, F#-24, E-24, D-24, C-24, B-25, A-25, G-25, F#-25, E-25, D-25, C-25, B-26, A-26, G-26, F#-26, E-26, D-26, C-26, B-27, A-27, G-27, F#-27, E-27, D-27, C-27, B-28, A-28, G-28, F#-28, E-28, D-28, C-28, B-29, A-29, G-29, F#-29, E-29, D-29, C-29, B-30, A-30, G-30, F#-30, E-30, D-30, C-30, B-31, A-31, G-31, F#-31, E-31, D-31, C-31, B-32, A-32, G-32, F#-32, E-32, D-32, C-32, B-33, A-33, G-33, F#-33, E-33, D-33, C-33, B-34, A-34, G-34, F#-34, E-34, D-34, C-34, B-35, A-35, G-35, F#-35, E-35, D-35, C-35, B-36, A-36, G-36, F#-36, E-36, D-36, C-36, B-37, A-37, G-37, F#-37, E-37, D-37, C-37, B-38, A-38, G-38, F#-38, E-38, D-38, C-38, B-39, A-39, G-39, F#-39, E-39, D-39, C-39, B-40, A-40, G-40, F#-40, E-40, D-40, C-40, B-41, A-41, G-41, F#-41, E-41, D-41, C-41, B-42, A-42, G-42, F#-42, E-42, D-42, C-42, B-43, A-43, G-43, F#-43, E-43, D-43, C-43, B-44, A-44, G-44, F#-44, E-44, D-44, 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F#-91, E-91, D-91, C-91, B-92, A-92, G-92, F#-92, E-92, D-92, C-92, B-93, A-93, G-93, F#-93, E-93, D-93, C-93, B-94, A-94, G-94, F#-94, E-94, D-94, C-94, B-95, A-95, G-95, F#-95, E-95, D-95, C-95, B-96, A-96, G-96, F#-96, E-96, D-96, C-96, B-97, A-97, G-97, F#-97, E-97, D-97, C-97, B-98, A-98, G-98, F#-98, E-98, D-98, C-98, B-99, A-99, G-99, F#-99, E-99, D-99, C-99, B-100, A-100, G-100, F#-100, E-100, D-100, C-100, B-101, A-101, G-101, F#-101, E-101, D-101, C-101, B-102, A-102, G-102, F#-102, E-102, D-102, C-102, B-103, A-103, G-103, F#-103, E-103, D-103, C-103, B-104, A-104, G-104, F#-104, E-104, D-104, C-104, B-105, A-105, G-105, F#-105, E-105, D-105, C-105, B-106, A-106, G-106, F#-106, E-106, D-106, C-106, B-107, A-107, G-107, F#-107, E-107, D-107, C-107, B-108, A-108, G-108, F#-108, E-108, D-108, C-108, B-109, A-109, G-109, F#-109, E-109, D-109, C-109, B-110, A-110, G-110, F#-110, E-110, D-110, C-110, B-111, A-111, G-111, F#-111, E-111, D-111, C-111, B-112, A-112, G-112, F#-112, E-112, D-112, C-112, B-113, A-113, G-113, F#-113, E-113, D-113, C-113, B-114, A-114, G-114, F#-114, E-114, D-114, C-114, B-115, A-115, G-115, F#-115, E-115, D-115, C-115, B-116, A-116, G-116, F#-116, E-116, D-116, C-116, B-117, A-117, G-117, F#-117, E-117, D-117, C-117, B-118, A-118, G-118, F#-118, E-118, D-118, C-118, B-119, A-119, G-119, F#-119, E-119, D-119, C-119, B-120, A-120, G-120, F#-120, E-120, D-120, C-120, B-121, A-121, G-121, F#-121, E-121, D-121, C-121, B-122, A-122, G-122, F#-122, E-122, D-122, C-122, B-123, A-123, G-123, F#-123, E-123, D-123, C-123, B-124, A-124, G-124, F#-124, E-124, D-124, C-124, B-125, A-125, G-125, F#-125, E-125, D-125, C-125, B-126, A-126, G-126, F#-126, E-126, D-126, C-126, B-127, A-127, G-127, F#-127, E-127, D-127, C-127, B-128, A-128, G-128, F#-128, E-128, D-128, C-128, B-129, A-129, G-129, F#-129, E-129, D-129, C-129, B-130, A-130, G-130, F#-130, E-130, D-130, C-130, B-131, A-131, G-131, F#-131, E-131, D-131, C-131, B-132, A-132, G-132, F#-132, E-132, D-132, C-132, B-133, A-133, G-133, F#-133, E-133, D-133, C-133, B-134, A-134, G-134, F#-134, E-134, D-134, C-134, B-135, A-135, G-135, F#-135, E-135, D-135, C-135, B-136, A-136, G-136, F#-136, E-136, D-136, C-136, B-137, A-137, G-137, F#-137, E-137, D-137, C-137, B-138, A-138, G-138, F#-138, E-138, D-138, C-138, B-139, A-139, G-139, F#-139, E-139, D-139, C-139, B-140, A-140, G-140, F#-140, E-140, D-140, C-140, B-141, A-141, G-141, F#-141, E-141, D-141, C-141, B-142, A-142, G-142, F#-142, E-142, D-142, C-142, B-143, A-143, G-143, F#-143, E-143, D-143, C-143, B-144, A-144, G-144, F#-144, E-144, D-144, C-144, B-145, A-145, G-145, F#-145, E-145, D-145, C-145, B-146, A-146, G-146, F#-146, E-146, D-146, C-146, B-147, A-147, G-147, F#-147, E-147, D-147, C-147, B-148, A-148, G-148, F#-148, E-148, D-148, C-148, B-149, A-149, G-149, F#-149, E-149, D-149, C-149, B-150, A-150, G-150, F#-150, E-150, D-150, C-150, B-151, A-151, G-151, F#-151, E-151, D-151, C-151, B-152, A-152, G-152, F#-152, E-152, D-152, C-152, B-153, A-153, G-153, F#-153, E-153, D-153, C-153, B-154, A-154, G-154, F#-154, E-154, D-154, C-154, B-155, A-155, G-155, F#-155, E-155, D-155, C-155, B-156, A-156, G-156, F#-156, E-156, D-156, C-156, B-157, A-157, G-157, F#-157, E-157, D-157, C-157, B-158, A-158, G-158, F#-158, E-158, D-158, C-158, B-159, A-159, G-159, F#-159, E-159, D-159, C-159, B-160, A-160, G-160, F#-160, E-160, D-160, C-160, B-161, A-161, G-161, F#-161, E-161, D-161, C-161, B-162, A-162, G-162, F#-162, E-162, D-162, C-162, B-163, A-163, G-163, F#-163, E-163, D-163, C-163, B-164, A-164, G-164, F#-164, E-164, D-164, C-164, B-165, A-165, G-165, F#-165, E-165, D-165, C-165, B-166, A-166, G-166, F#-166, E-166, D-166, C-166, B-167, A-167, G-167, F#-167, E-167, D-167, C-167, B-168, A-168, G-168, F#-168, E-168, D-168, C-168, B-169, A-169, G-169, F#-169, E-169, D-169, C-169, B-170, A-170, G-170, F#-170, E-170, D-170, C-170, B-171, A-171, G-171, F#-171, E-171, D-171, C-171, B-172, A-172, G-172, F#-172, E-172, D-172, C-172, B-173, A-173, G-173, F#-173, E-173, D-173, C-173, B-174, A-174, G-174, F#-174, E-174, D-174, C-174, B-175, A-175, G-175, F#-175, E-175, D-175, C-175, B-176, A-176, G-176, F#-176, E-176, D-176, C-176, B-177, A-177, G-177, F#-177, E-177, D-177, C-177, B-178, A-178, G-178, F#-178, E-178, D-178, C-178, B-179, A-179, G-179, F#-179, E-179, D-179, C-179, B-180, A-180, G-180, F#-180, E-180, D-180, C-180, B-181, A-181, G-181, F#-181, E-181, D-181, C-181, B-182, A-182, G-182, F#-182, E-182, D-182, C-182, B-183, A-183, G-183, F#-183, E-183, D-183, C-183, B-184, A-184, G-184, F#-184, E-184, D-184, C-184, B-185, A-185, G-185, F#-185, E-185, D-185, C-185, B-186, A-186, G-186, F#-186, E-186, D-186, C-186, B-187, A-187, G-187, F#-187, E-187, D-187, C-187, B-188, A-188, G-188, F#-188, E-188, D-188, C-188, B-189, A-189, G-189, F#-189, E-189, D-189, C-189, B-190, A-190, G-190, F#-190, E-190, D-190, C-190, B-191, A-191, G-191, F#-191, E-191, D-191, C-191, B-192, A-192, G-192, F#-192, E-192, D-192, C-192, B-193, A-193, G-193, F#-193, E-193, D-193, C-193, B-194, A-194, G-194, F#-194, E-194, D-194, C-194, B-195, A-195, G-195, F#-195, E-195, D-195, C-195, B-196, A-196, G-196, F#-196, E-196, D-196, C-196, B-197, A-197, G-197, F#-197, E-197, D-197, C-197, B-198, A-198, G-198, F#-198, E-198, D-198, C-198, B-199, A-199, G-199, F#-199, E-199, D-199, C-199, B-200, A-200, G-200, F#-200, E-200, D-200, C-200, B-201, A-201, G-201, F#-201, E-201, D-201, C-201, B-202, A-202, G-202, F#-202, E-202, D-202, C-202, B-203, A-203, G-203, F#-203, E-203, D-203, C-203, B-204, A-204, G-204, F#-204, E-204, D-204, C-204, B-205, A-205, G-205, F#-205, E-205, D-205, C-205, B-206, A-206, G-206, F#-206, E-206, D-206, C-206, B-207, A-207, G-207, F#-207, E-207, D-207, C-207, B-208, A-208, G-208, F#-208, E-208, D-208, C-208, B-209, A-209, G-209, F#-209, E-209, D-209, C-209, B-210, A-210, G-210, F#-210, E-210, D-210, C-210, B-211, A-211, G-211, F#-211, E-211, D-211, C-211, B-212, A-212, G-212, F#-212, E-212, D-212, C-212, B-213, A-213, G-213, F#-213, E-213, D-213, C-213, B-214, A-214, G-214, F#-214, E-214, D-214, C-214, B-215, A-215, G-215, F#-215, E-215, D-215, C-215, B-216, A-216, G-216, F#-216, E-216, D-216, C-216, B-217, A-217, G-217, F#-217, E-217, D-217, C-217, B-218, A-218, G-218, F#-218, E-218, D-218, C-218, B-219, A-219, G-219, F#-219, E-219, D-219, C-219, B-220, A-220, G-220, F#-220, E-220, D-220, C-220, B-221, A-221, G-221, F#-221, E-221, D-221, C-221, B-222, A-222, G-222, F#-222, E-222, D-222, C-222, B-223, A-223, G-223, F#-223, E-223, D-223, C-223, B-224, A-224, G-224, F#-224, E-224, D-224, C-224, B-225, A-225, G-225, F#-225, E-225, D-225, C-225, B-226, A-226, G-226, F#-226, E-226, D-226, C-226, B-227, A-227, G-227, F#-227, E-227, D-227, C-227, B-228, A-228, G-228, F#-228, E-228, D-228, C-228, B-229, A-229, G-229, F#-229, E-229, D-229, C-229, B-230, A-230, G-230, F#-230, E-230, D-230, C-230, B-231, A-231, G-231, F#-231, E-231, D-231, C-231, B-232, A-232, G-232, F#-232, E-232, D-232, C-232, B-233, A-233, G-233, F#-233, E-233, D-233, C-233, B-234, A-234, G-234, F#-234, E-234, D-234, C-234, B-235, A-235, G-235, F#-235, E-235, D-235, C-235, B-236, A-236, G-236, F#-236, E-236, D-236, C-236, B-237, A-237, G-237, F#-237, E-237, D-237, C-237, B-238, A-238, G-238, F#-238, E-238, D-238, C-238, B-239, A-239, G-239, F#-239, E-239, D-239, C-239, B-240, A-240, G-240, F#-240, E-240, D-240, C-240, B-241, A-241, G-241, F#-241, E-241, D-241, C-241, B-242, A-242, G-242, F#-242, E-242, D-242, C-242, B-243, A-243, G-243, F#-243, E-243, D-243, C-243, B-244, A-244, G-244, F#-244, E-244, D-244, C-244, B-245, A-245, G-245, F#-245, E-245, D-245, C-245, B-246, A-246, G-246, F#-246, E-246, D-246, C-246, B-247, A-247, G-247, F#-247, E-247, D-247, C-247, B-248, A-248, G-248, F#-248, E-248, D-248, C-248, B-249, A-249, G-249, F#-249, E-249, D-249, C-249, B-250, A-250, G-250, F#-250, E-250, D-250, C-250, B-251, A-251, G-251, F#-251, E-251, D-251, C-251, B-252, A-252, G-252, F#-252, E-252, D-252, C-252, B-253, A-253, G-253, F#-253, E-253, D-253, C-253, B-254, A-254, G-254, F#-254, E-254, D-254, C-254, B-255, A-255, G-255, F#-255, E-255, D-255, C-255, B-256, A-256, G-256, F#-256, E-256, D-256, C-256, B-257, A-257, G-257, F#-257, E-257, D-257, C-257, B-258, A-258, G-258, F#-258, E-258, D-258, C-258, B-259, A-259, G-259, F#-259, E-259, D-259, C-259, B-260, A-260, G-260, F#-260, E-260, D-260, C-260, B-261, A-261, G-261, F#-261, E-261, D-261, C-261, B-262, A-262, G-262, F#-262, E-262, D-262, C-262, B-263, A-263, G-263, F#-263, E-263, D-263, C-263, B-264, A-264, G-264, F#-264, E-264, D-264, C-264, B-265, A-265, G-265, F#-265, E-265, D-265, C-265, B-266, A-266, G-266, F#-266, E-266, D-266, C-266, B-267, A-267, G-267, F#-267, E-267, D-267, C-267, B-268, A-268, G-268, F#-268, E-268, D-268, C-268, B-269, A-269, G-269, F#-269, E-269, D-269, C-269, B-270, A-270, G-270, F#-270, E-270, D-270, C-270, B-271, A-271, G-271, F#-271, E-271, D-271, C-271, B-272, A-272, G-272, F#-272, E-272, D-272, C-272, B-273, A-273, G-273, F#-273, E-273, D-273, C-273, B-274, A-274, G-274, F#-274, E-274, D-274, C-274, B-275, A-275, G-275, F#-275, E-275, D-275, C-275, B-276, A-276, G-276, F#-276, E-276, D-276, C-276, B-277, A-277, G-277, F#-277, E-277, D-277, C-277, B-278, A-278, G-278, F#-278, E-278, D-278, C-278, B-279, A-279, G-279, F#-279, E-279, D-279, C-279, B-280, A-280, G-280, F#-280, E-280, D-280, C-280, B-281, A-281, G-281, F#-281, E-281, D-281, C-281, B-282, A-282, G-282, F#-282, E-282, D-282, C-282, B-283, A-283, G-283, F#-283, E-283, D-283, C-283, B-284, A-284, G-284, F#-284, E-284, D-284, C-284, B-285, A-285, G-285, F#-285, E-285, D-285, C-285, B-286, A-286, G-286, F#-286, E-286, D-286, C-286, B-287, A-287, G-287, F#-287, E-287, D-287, C-287, B-288, A-288, G-288, F#-288, E-288, D-288, C-288, B-289, A-289, G-289, F#-289, E-289, D-289, C-289, B-290, A-290, G-290, F#-290, E-290, D-290, C-290, B-

WINDS:



Lift-off: on the eighth note (quaver), release all fingers while simultaneously stopping breath, resulting in a percussive sound

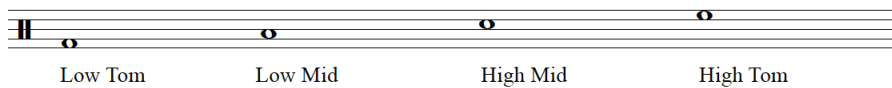


Slide: bending without perception of individual half steps

Glissando: playing chromatic notes

PERCUSSION:

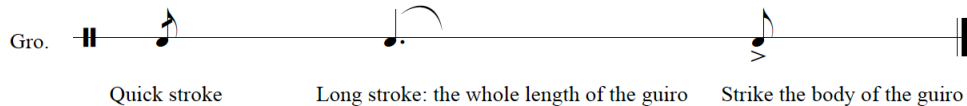
Quad Toms



Rim shots on respective drums



Guiro



Hope

Margaret Collins Stoop

Emily Dickinson

$\text{♩} = 66$

The musical score is arranged in a system with seven staves. The top two staves are for vocalists: Soprano and Mezzo-Soprano. The next two staves are for Percussion, with the first staff for Quad toms and the second for Yarn mallets. The bottom three staves are for woodwinds: Western Concert Flute, Native American Flute, and Clarinet in Bb. A section starting at measure 9 includes Percussion (9), N.A. Flute, and Bb Clarinet. The score includes various musical notations such as dynamics (p, mp, mf, f, ppp), articulation (accents, slurs), and performance instructions like 'simply, with minimal vibrato throughout' and 'lift-off'.

49

S *p* in the soul, *mf* Hope is, *f* Hope is the

Mezzo *p* in the soul, *mf* Hope is, *f* Hope is the

Perc. Hope is, Hope is the thing with lea

Fl. *mp* *p* *mf* *f* *mf* *f* *mp*

N.A. Fl. *mf* *f* *mf* *f* *mp*

B♭ Cl. *p* *mf* *f* *mp*

57

S *mf* thing, That per - ches, in the soul,

Mezzo That per - ches, in the soul,

Perc. That per - ches, in the soul,

Fl. *mp* *p* *mp*

N.A. Fl. *mp* *p* *mp*

B♭ Cl. *mp* *p* *mp*

70

S *mp* with - out the words, *p* *mp* And

Mezzo *mp* with - out the words, *p* *mp* And

Fl. *mp* *p* *pp*

N.A. Fl. *mf* *mp*

B.Cl. *mp* *p* *pp*

76

S *mp* ne - ver, ne - ver, ne - ver stops at all. *pp*

Mezzo *mp* ne - ver, ne - ver, ne - ver stops at all. *pp*

Fl. *pp*

N.A. Fl. *p*

B.Cl. *pp* *p* *mp*

82

S
Mezzo
Fl.
N.A. Fl.
B♭ Cl.

87 (♩=♩)

S
Mezzo
Perc.
Fl.
N.A. Fl.
B♭ Cl.

mf
f
mp
f
mf

mp dolce
mf
sweet, _____
And
mp dolce
mf
sweet, _____
mp
sweet, _____
p
pp
p
mp
pp
mf
mp
p

95 *mf*

S *mp* And sweet in the Gale *mf*

Mezzo *mf* sweet, est in the Gale *mf*

Perc. [To Guiro]

Fl. *mp*

N.A. Fl. *mp*

B. Cl. *mp*

100 *mp*

S *mf* is heard, must be and *mf*

Mezzo *mp* And sore must be, and *mf*

Perc. *p*

Fl. *mf*

N.A. Fl. *mf*

B. Cl. *mp*

106

S
Mezzo
Perc.
Fl.
N.A. Fl.
B♭ Cl.

mf And sore must be the sore must be, the sore must be the storm.
f
f
mf

112

S
Mezzo
Perc.
Fl.
N.A. Fl.
B♭ Cl.

mp That could a - bash the lit - tle
mp
that could a - bash the lit - tle
f
f
mf
p
p

120 *mp* *intensifying* *mf*

S Bird, a - bash, a - bash, a - bash, the lit - - - le
mp *intensifying* *mf*

Mezzo That could a - bash, a - bash, a - bash, the lit - - - le [To Quads]

Perc. *mp*

Fl. *p* *mf* *f*

N.A. Fl. *mf* *f*

B♭ Cl. *mf* *f*

125 *p* *mp dolce* *mf* *pp* *pp* *pp* *pp*

S Bird — That kept so ma - ny warm. (♩=♩)

Mezzo *mp dolce* Bird — that kept so ma - ny warm. *pp*

Perc. *pp*

Fl. *pp* *pp*

N.A. Fl. *pp*

B♭ Cl. *pp*

137

S *mf* I've heard it

Mezzo *mf* I've heard it

Perc. *p*

Fl. *loco* *mf*

N.A. Fl. *p* *pp* *mf*

B♭ Cl. *p* *pp* *mf* *p*

To Guaro

146

S in the chill - est land, the chill - est land, And on the

Mezzo in the chill - est land, the chill - est land, And on the

Perc. *mp*

Fl. *fluttertongue* *mf*

N.A. Fl. *p* *mf*

B♭ Cl. *p* *mf*

fluttertongue

rit. -----

154 *mf*

S
strang - est, strang - est, strang - est, sea,
mf strang - est, strang - est, strang - est

Mezzo
strang - est, strang - est, strang - est, sea,
mf strang - est, strang - est, strang - est

Perc.

Fl.
mf

N.A. Fl.
mf

B \flat Cl.
mf

160 *mp* *p* *a tempo*

S
mp *p* *mp* *p* *mp* *p* *mp* *p* *mp* *p*
Yet ne - ver, ne - ver, ne - ver, Yet
Yet ne - ver, ne - ver, ne - ver, Yet

Mezzo
mp *p* *mp* *p* *mp* *p* *mp* *p* *mp* *p*
Yet ne - ver, ne - ver, ne - ver, ne - ver, ne - ver,

Perc.

Fl.
ppp

N.A. Fl.
pp

B \flat Cl.
mp *pp*

170

S
mp ne-ver, in ex-tre - mi - - - *p* It asked a crumb of me.
mp ne-ver, in ex-tre - mi - - - *p* It asked a crumb of me.

Mezzo
mp ne-ver, in ex-tre - mi - - - *p* It asked a crumb of me.
mp ne-ver, in ex-tre - mi - - - *p* It asked a crumb of me.

Fl.
ppp

N.A. Fl.
mp

B.Cl.
pp

Detailed description: This is a page of a musical score for a vocal and instrumental ensemble. It features five staves: Soprano (S), Mezzo, Flute (Fl.), North American Flute (N.A. Fl.), and Bass Clarinet (B.Cl.). The Soprano and Mezzo parts have lyrics in two lines. The vocal lines are marked with dynamics *mp* and *p*. The instrumental parts include a Flute part starting with *ppp*, an N.A. Flute part with *mp*, and a Bass Clarinet part with *pp*. The score includes various musical notations such as notes, rests, slurs, and dynamic markings.

Soft-Spoken Power

for solo Native American Flute

Margaret Collins Stoop

Pensive, freely ♩ = 84

mp < > < > > *p* *mp*

6

10 *warble +*
< *mf* *mp* < *mf*

15 >

21

24 *In strict time non legato*
molto vib.
< *mf*

29 3 3

35 *non diminuendo*

42 *mp* < *mf*

51 *molto vib.*
< *f* *mf* 3 3 < *f*

Soft-spoken Power
Energized

59 *mf* *> mp* *mf*

67 *< f*

75 *mp* *< f* *mf*

86 *molto vib.* *non legato*
< f *mf*

93 *molto vib.* *non legato*
< f *mf*

100 *f* *molto rit.*

107 *meno mosso espress.* *Freely, like the opening bars*
mp *> p* *mp*

114 *rall.*
< > *> p* *mp* *> p* *mp*

120 *warble* *> p*

Moving Toward Home

Glossary and Performance Notes

Instrumentation: uilleann pipes, clarinet in B flat, bassoon, and cello
The clarinet is notated one whole step above concert pitch.

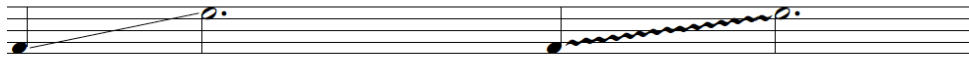
Duration: 6 minutes

It is understood that the uilleann pipes will have a much more narrow dynamic range than the rest of the ensemble. Relative dynamics in the score reflect this.

All grace notes are to be played as quickly as possible.



Lift-off: on the eighth note (quaver), release all fingers while simultaneously stopping breath, resulting in a percussive sound



Slide: bending without
perception of individual half steps

Glissando: playing chromatic notes

Moving Toward Home

Margaret Collins Stoop

♩ = 76

Uilleann Pipes Chanter

Uilleann Pipes Regulators

Clarinet in B♭

Bassoon

Cello

7 A Yearning for the home that was

U.P.C.

B♭ Cl.

Bsn.

Vc.

13 *molto vibrato*

U.P.C.

B♭ Cl.

Bsn.

Vc.

col legno battuto

arco

19 *ord.*

U.P.C. *f*

B♭ Cl. *fp* *f* *mf*

Bsn. *f* *mf*

Vc. *f* *mf*

25

U.P.C. *mf* *p* *slow slidewide vibrato*

B♭ Cl. *mp* *fp*

Bsn. *mp* *fp*

Vc. *mp* *fp* *mp* *col legno battuto*

29 *ord. slow slide*

U.P.C. *mp*

B♭ Cl. *mp* *p*

Bsn.

Vc. *mp* *p* *arco*

35

U.P.C. *mp* *mf*

B \flat Cl. wide vibrato

Bsn. *mp* *p* *fp*

Vc. *mp* wide vibrato

Detailed description: This system covers measures 35 to 38. The U.P.C. part starts with a rest, then plays a melodic line with accents and a crescendo to *mf*. The B \flat Cl. part has a long note with wide vibrato. The Bsn. part has a melodic line with accents and dynamic markings *mp*, *p*, and *fp*. The Vc. part has a long note with wide vibrato and a crescendo to *mp*.

39

U.P.C.

B \flat Cl. ord. *mp* *mf* *f* *ff* wide vibrato

Bsn. wide vibrato *mp* *mf* *f* *ff* ord. *fp*

Vc. *mf* *f* *ff* ord.

Detailed description: This system covers measures 39 to 42. The U.P.C. part has a melodic line with accents. The B \flat Cl. part has a long note with wide vibrato and a crescendo to *ff*, with an *ord.* marking. The Bsn. part has a long note with wide vibrato and a crescendo to *ff*, with an *ord. fp* marking. The Vc. part has a long note with a crescendo to *ff* and an *ord.* marking.

B

U.P.C.

B \flat Cl. *fp* *mp* *fp* *mp*

Bsn. *fp* *mp* *fp*

Vc. *fp* *mp* *fp* *mf*

Detailed description: This system covers measures 43 to 46. The U.P.C. part has a melodic line with accents and a crescendo to *mp*. The B \flat Cl. part has a long note with dynamic markings *fp*, *mp*, *fp*, and *mp*. The Bsn. part has a long note with dynamic markings *fp*, *mp*, and *fp*. The Vc. part has a long note with dynamic markings *fp*, *mp*, *fp*, and *mf*.

48

U.P.C.

B \flat Cl.

Bsn.

Vc.

mf *fp* *f* *f*

mf *fp* *f* *ff* *f*

Detailed description: This system contains measures 48 through 51. The U.P.C. part is mostly silent, with a final note in measure 51 marked *f*. The B \flat Cl. part starts in measure 49 with a *fp* dynamic and reaches *f* by measure 51. The Bsn. part begins in measure 48 with *mf*, then *fp* in measure 49, and *f* in measures 50 and 51. The Vc. part starts in measure 48 with *mf*, *fp* in measure 49, *f* in measure 50, *ff* in measure 51, and *f* in measure 52.

52

U.P.C.

B \flat Cl.

Bsn.

Vc.

ff *ff* *ff*

Detailed description: This system contains measures 52 through 55. All parts (U.P.C., B \flat Cl., Bsn., and Vc.) play sustained notes or chords, all marked with a fortissimo (*ff*) dynamic. The U.P.C. part has a grace note in measure 52. The B \flat Cl. part has a grace note in measure 53. The Bsn. part has a grace note in measure 54. The Vc. part has a grace note in measure 55.

56

U.P.C.

B \flat Cl.

Bsn.

Vc.

slow slide

f *mf* *mf* *mp*

mf *mf* *fp* *fp*

mf *mf* *fp* *fp*

mf *mf* *fp* *fp*

Detailed description: This system contains measures 56 through 59. The U.P.C. part starts with a grace note in measure 56, then plays *f* in measure 57, *mf* in measure 58, and *mp* in measure 59, with a "slow slide" instruction. The B \flat Cl. part plays *mf* in measures 57 and 58, and *fp* in measures 59 and 60. The Bsn. part plays *mf* in measures 57 and 58, and *fp* in measures 59 and 60. The Vc. part plays *mf* in measures 57 and 58, and *fp* in measures 59 and 60.

60 wide vibrato ord. slow slide

U.P.C.

B \flat Cl. *p*

Bsn. *p* *mf*

Vc. *mp* col legno battuto *p* arco *f*

C Stepping out

U.P.C.

B \flat Cl. *mp*

Bsn. *mp*

Vc. *mp* pizz.

69

U.P.C. *mp*

B \flat Cl. *f*

Bsn. *mf*

Vc. *mf* arco

72

U.P.C.

B♭ Cl.

Bsn.

Vc.

Musical score for measures 72-74. U.P.C. (Upper Piccolo Clarinet) starts at measure 72 with a half note G4, rests, then a quarter note G4 with *mp*. At measure 73, it plays a sixteenth-note triplet (A4, B4, C5) with *mf*. At measure 74, it plays a quarter note G4 with *mf*. B♭ Clarinet (B♭ Cl.) has a whole rest at measure 72, then a half note G4 with *fp* at measure 73, and a quarter note G4 with *mf* at measure 74. Bassoon (Bsn.) has a half note G2 with *f* at measure 72, a quarter note G2 with *mf* at measure 73, and a quarter note G2 with *mf* at measure 74. Violoncello (Vc.) has a half note G2 with *f* at measure 72, a quarter note G2 with *mf* at measure 73, and a quarter note G2 with *mf* at measure 74.

75

U.P.C.

B♭ Cl.

Bsn.

Vc.

Musical score for measures 75-77. U.P.C. has a half note G4 with *mf* at measure 75, then a quarter note G4 with *ff* at measure 76, and a quarter note G4 with *ff* at measure 77. B♭ Clarinet (B♭ Cl.) has a half note G4 with *p* at measure 75, a half note G4 with *mp* at measure 76, and a quarter note G4 with *f* at measure 77. Bassoon (Bsn.) has a half note G2 with *f* at measure 75, a quarter note G2 with *mp* at measure 76, and a quarter note G2 with *f* at measure 77. Violoncello (Vc.) has a half note G2 with *f* at measure 75, a half note G2 with *mp* at measure 76, and a quarter note G2 with *p* at measure 77. The Vc. part includes *pizz.* (pizzicato) for the first half of measure 75 and *arco* (arco) for the rest of measure 75 and measure 76.

78

U.P.C.

U.P.R.

B♭ Cl.

Bsn.

Vc.

Musical score for measures 78-80. U.P.C. has a half note G4 with *f* at measure 78, then a quarter note G4 with *f* at measure 79, and a quarter note G4 with *f* at measure 80. U.P.R. (Upper Piccolo Recorder) has a whole rest at measure 78, then a whole rest at measure 79, and a whole rest at measure 80. B♭ Clarinet (B♭ Cl.) has a half note G4 with *f* at measure 78, a quarter note G4 with *f* at measure 79, and a quarter note G4 with *f* at measure 80. Bassoon (Bsn.) has a half note G2 with *f* at measure 78, a quarter note G2 with *f* at measure 79, and a quarter note G2 with *f* at measure 80. Violoncello (Vc.) has a half note G2 with *f* at measure 78, a quarter note G2 with *f* at measure 79, and a quarter note G2 with *f* at measure 80.

81 D

U.P.C.
U.P.R.
B♭ Cl.
Bsn.
Vc.

f *f* *ff* *mp* *ff* *mp* *pizz.* *mp*

Detailed description: This system covers measures 81 to 83. It features five staves: U.P.C., U.P.R., B♭ Cl., Bsn., and Vc. The key signature has one sharp (F#) and the time signature is 2/4. A dynamic marking 'D' in a box is placed above the U.P.C. staff at measure 81. The U.P.C. and U.P.R. parts are mostly rests, with some notes in measure 82. The B♭ Cl. and Vc. parts have complex rhythmic patterns with triplets and accents. The Bsn. part has a steady eighth-note accompaniment. Dynamics include *f*, *ff*, *mp*, and *pizz.*.

84

U.P.C.
U.P.R.
B♭ Cl.
Bsn.
Vc.

f *f* *mp* *mp* *mp* *arco*

Detailed description: This system covers measures 84 to 87. It features five staves: U.P.C., U.P.R., B♭ Cl., Bsn., and Vc. The key signature has one sharp (F#) and the time signature is 2/4. The U.P.C. and U.P.R. parts have rhythmic patterns with accents. The B♭ Cl. and Bsn. parts have more complex rhythmic figures with triplets. The Vc. part has a steady eighth-note accompaniment with a triplet in measure 87. Dynamics include *f*, *mp*, and *arco*.

88

U.P.C.
B♭ Cl.
Bsn.
Vc.

f *mf* *f* *mf*

Detailed description: This system covers measures 88 to 91. It features four staves: U.P.C., B♭ Cl., Bsn., and Vc. The key signature has one sharp (F#) and the time signature is 2/4. The U.P.C. staff is mostly rests. The B♭ Cl. and Bsn. parts have complex rhythmic patterns with triplets and accents. The Vc. part has a steady eighth-note accompaniment with a triplet in measure 90. Dynamics include *f* and *mf*.

92

U.P.C.

U.P.R.

B♭ Cl.

Bsn.

Vc.

f

mf

f

mp

mf

arco mp

pizz. mp

96

U.P.C.

U.P.R.

B♭ Cl.

Bsn.

Vc.

ff

mf

mf

mf

mp

mf

arco mp

100

U.P.C.

U.P.R.

B♭ Cl.

Bsn.

Vc.

f

mp

f

f

mp

f

f

mp

f sub

E Gaining confidence

Moving Toward Home

Musical score for measures 95-107. The score is for five parts: U.P.C., U.P.R., B♭ Cl., Bsn., and Vc. The key signature has one sharp (F#). The tempo is marked *ff* (fortissimo) throughout. The U.P.C. and U.P.R. parts feature eighth-note patterns with accents. The B♭ Cl. part has a dynamic change from *ff* to *f* in measure 100. The Bsn. part has a dynamic change from *ff* to *f* in measure 100. The Vc. part has a dynamic change from *ff* to *f* in measure 100, with a *pizz.* (pizzicato) marking in measure 100.

Musical score for measures 108-112. The score is for five parts: U.P.C., U.P.R., B♭ Cl., Bsn., and Vc. The key signature has one sharp (F#). The tempo is marked *mf* (mezzo-forte). The U.P.C. and U.P.R. parts feature eighth-note patterns with accents. The B♭ Cl. part has a dynamic change from *mf* to *p* (piano) in measure 110. The Bsn. part has a dynamic change from *mf* to *p* in measure 110. The Vc. part has a dynamic change from *mf* to *p* in measure 110. The U.P.C. and U.P.R. parts are marked *molto legato* in measure 110. The Bsn. part has a triplet marking in measure 110.

Musical score for measures 113-117. The score is for five parts: U.P.C., U.P.R., B♭ Cl., Bsn., and Vc. The key signature has one sharp (F#). The tempo is marked *mf* (mezzo-forte). The U.P.C. and U.P.R. parts feature eighth-note patterns with accents. The B♭ Cl. part has a dynamic change from *mf* to *p* (piano) in measure 115. The Bsn. part has a dynamic change from *mf* to *p* in measure 115. The Vc. part has a dynamic change from *mf* to *p* in measure 115.

119

U.P.C. *mf* *ff*

U.P.R. *mf* *ff*

B \flat Cl. *f* *ff* *f*

Bsn. *p* *afco* *ff* *pizz. f*

Vc. *p* *f* *ff* *f*

124

U.P.C.

U.P.R.

B \flat Cl. *legato*

Bsn. *legato*

Vc.

129

U.P.C.

B \flat Cl. *pp* *p*

Bsn. *pp* *p*

Vc. *pp* *p*

134

U.P.C.

U.P.R.

B \flat Cl.

Bsn.

Vc.

p *mp* *p* *mp*

p *mp* *mf* *p*

arco 3 pizz.

139

U.P.C.

U.P.R.

B \flat Cl.

Bsn.

Vc.

mf *mf* *mp* *mf*

mp *mp* *mf*

144

U.P.C.

U.P.R.

B \flat Cl.

Bsn.

Vc.

mf *f* *ff*

f *f* *ff*

arco 3

F

148

U.P.C.

B♭ Cl.

Bsn.

Vc.

ff *mf*

151

U.P.C.

U.P.R.

B♭ Cl.

Bsn.

Vc.

mp *p* *f sub*

154

U.P.C.

U.P.R.

B♭ Cl.

Bsn.

Vc.

G Integration

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

Moving Toward Home

158

U.P.C. *ff* *mf*

U.P.R. *ff* *mf*

B♭ Cl. *f* *molto legato mf*

Bsn. *f* *mf*

Vc. *f* *mf*

163

U.P.C. *f* *mf*

U.P.R.

B♭ Cl. *molto legato*

Bsn.

Vc.

168

U.P.C. *p* *mp* *mp* *mf*

U.P.R.

B♭ Cl. *p* *mp*

Bsn. *p* *mp*

Vc. *p* *mp*

H Home

174

U.P.C.

U.P.R.

B♭ Cl.

Bsn.

Vc.

mf

mf

mp

f

ff

f

f

f

f

180

U.P.C.

U.P.R.

B♭ Cl.

Bsn.

Vc.

p sub

mp

mf

p sub

mf

p sub

mf

183

U.P.C.

U.P.R.

B♭ Cl.

Bsn.

Vc.

f

ff

f

ff

f

ff

f

ff

Under a Cobalt Sky

Glossary and Performance Notes

Instrumentation: clarinet in B flat, violin, Persian santoor, and Persian tar

Duration: 8'40"

Two santours are be played by one player:

Santoor 1 tuned in E phrygian, with white (middle) strings D4 to E5.

Santoor 2 tuned in B phrygian, with white (middle) strings A3 to B4.


The violin, santoor, and tar are notated at concert pitch (note the octavo basso clef for the tar).


The clarinet is notated one whole step above concert pitch.


All grace notes are to be played as quickly as possible.





= slide, half steps indiscernible


 = strum with the thumbnail
mezrab

 = strum with the back end of the

 = strum from the bottom note up

 = strum from the top note down

 = natural harmonics, sounding one octave higher

 = in the tar and santoor parts, stop the pitch from ringing by touching the string

Under a Cobalt Sky

Margaret Collins Stoop

Impassioned ♩ = 40

Clarinet in B \flat

Violin

Santoor 1

Tar

extremely slow slide

ff > *p* *f* > *p* *ff* > *p* *mf* >

8 Serene ♩ = 66

B \flat Cl.

Vln.

San.

Tar

mp > *p* *mp* > *p* *mf* > *mp*

12

B \flat Cl.

Vln.

San.

Tar

pp *p* > *mp* > *pp*

15

B \flat Cl.

Vln.

San.

Tar

p > *mp* > *p* *mp* > *p* *p* > *mp* > *sul tasto* *p* *mp*

20 A

B♭ Cl. *p* *mp* *mf*

Vln. *p* *mf* *ordinario*

San. *mp* *mf* *mp*

Tar. *f* *mf* *8^{va}*

Measures 20-24: B♭ Clarinet, Violin, Santoor, and Tar. The key signature is one sharp (F#). The time signature is 3/4. Dynamics range from *p* to *mf*. The Tar part includes an *8^{va}* marking.

25

B♭ Cl.

Vln.

San.

Tar.

Measures 25-27: Continuation of the instrumental parts. The Tar part continues with a rhythmic pattern.

28

B♭ Cl. *p sub.*

Vln. *pizz.* *mp*

San. *mp*

Tar. *loco* *8^{va}* *mf*

Measures 28-31: B♭ Clarinet has a *p sub.* marking. Violin has a *pizz.* marking. Santoor has a *loco* marking. Tar has an *8^{va}* marking.

32

B♭ Cl.

Vln.

San. *mf* *S2*

Tar. *loco* *f*

Measures 32-35: Santoor part includes a *S2* marking. Tar part includes a *loco* marking. The Tar part ends with a *f* dynamic.

36

B♭ Cl.

Vln. *mp*

San.

Tar. *mf*

42

B♭ Cl. *p*

Vln. *mf* *mp*

San. *mp*

Tar. *mf*

46

B♭ Cl. *mf*

Vln. *arco* *mf*

San. *mp*

Tar. *mf*

50

B♭ Cl. (*fluttertongue*)

Vln.

San.

Tar. *mf* *f*

54

B♭ Cl.

Vln.

San.

Tar

Switch to Santoor 1

56

B♭ Cl.

Vln.

San.

Tar

quick slides

ff

ff

fff

60

B♭ Cl.

Vln.

San.

Tar

rit.

B Dreamily ♩ = 72

mp

mp

p

mp

65

B♭ Cl.

Vln.

San.

Tar

mp

mf

p

mp

69

B♭ Cl. *p* *p*

Vln. *p* *pizz.* *mp*

San. *mp* *mp*

Tar. *mf* *mp*

Switch to Santoor 2 S2

72

B♭ Cl. *mp* *mf*

Vln. *mp* *arco* *mf*

San. *p* *mp*

Tar. *mf*

75

B♭ Cl.

Vln. *sul ponticello*

San.

Tar.

78

B♭ Cl. *f* *mf* *f*

Vln. *f* *sul tasto* *mf* *f ord.*

San. *f* *mf*

Tar. *ff* *f* *ff*

82 *rit.* C Slower ♩ = 66

B♭ Cl. *mp* *mf* *pp* *p*

Vln. *mp* *mf* *mp* *p* *pizz.* *arco*

San. *mp* *mf* *p* *p* Switch to Santoor 1

Tar. *mf* *f* *mp*

86

B♭ Cl. *pp* *p* *pp*

Vln. *mp* *p* *si*

San. *p* *p*

Tar. *p* *pp*

90

B♭ Cl. *pp* *ppp*

Vln. *p* *mp* *pp* *pp* *ppp* *sul ponticello.*

San. *pp*

Tar. *p* *p* *mp* *loco*

96

B♭ Cl. *ppp* *mp* *mf*

Vln. *ppp* *mp* *mf* *pizz.*

San. *p*

Tar. *pp* *p* *mf* *f* *extremely slow slide*

101 *Come prima* ♩ = 40 *extremely slow slide*

B♭ Cl. *ff* > *p* *f* > *p* *ff* > *p* < *f* > *p* > *pp*

Vln. *arco* *extremely slow slide* *ff* > *p* *f* > *p* *ff* > *p* < *f* > *p* > *pp*

San. *ff* *p* *f* *p* *ff* *p* *f* *p*

Tar. *fff* > *mp* *ff* > *mp* *fff* > *mp* < *ff* > *mp* > *p*

D Excited and jubilant ♩ = 80

B♭ Cl. *f* *mf* *f* *mf*

Vln. *f* *pizz.* *f* *arco* *f*

San. *f*

Tar. *ff* *mf*

113

B♭ Cl.

Vln. *mf*

San. *mf*

Tar. *f*

116

B♭ Cl.

Vln.

San.

Tar.

119

B♭ Cl.

Vln.

San.

Tar.

mf

mp

122

B♭ Cl.

Vln.

San.

Tar.

mp

p

mp

mf

8va

mf

mp

125

B♭ Cl.

Vln.

San.

Tar.

mp

mf

f

mf

f

6

mf

loco

f

128

B♭ Cl.

Vln.

San.

Tar.

ff

ff

pizz.

f

arco

mf

ff

ff

131

B♭ Cl. *f* *mf*

Vln.

San. *f* *mf*

Tar. *mf* *f*

134

B♭ Cl.

Vln.

San.

Tar.

137

B♭ Cl.

Vln.

San. *mf*

Tar.

139

B♭ Cl.

Vln. *mf*

San. *mp*

Tar.

141

B♭ Cl. *mp* *p*

Vln. *mp*

San.

Tar. *mf*

143

B♭ Cl. *mf*

Vln. *mf*

San. *mf*

Tar. *f*

146

B♭ Cl. *f*

Vln. *f*

San. *f*

Tar. *ff*

148

B♭ Cl. *ff*

Vln. *ff* extremely slow slide

San. *ff*

Tar. *fff*

Zephyr

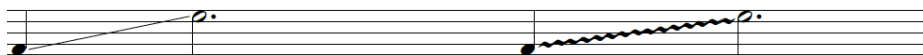
Glossary and Performance Notes

Instrumentation: xiao (a Chinese bamboo flute), cello, and suspended cymbal

Duration: 6'30"

In 'Zephyr', the airy timbre of the xiao is often accompanied by breath-like sounds in the cello and cymbal parts. In this way, the cello and the cymbal complement the ensemble without overpowering the xiao. While the word 'zephyr' means a gentle, westerly breeze, an Irish traditional tune, 'An Ghaoth Aneas' (The Wind from the South) is loosely woven into the fabric of the piece.

The xiao used in the composition and premiere performance is an eight-hole xiao with a D fundamental. It is notated at concert pitch.



Slide: bending without
perception of individual half steps

Glissando: playing chromatic notes

Cymbal:

SB = superbball mallet

⊙ = at center

⊙ = at rim

= strike the centre of the cymbal and drag the mallet to the rim

☞ = strike the cymbal with the side of a fist

☞ = wire brush **shr** = single hand roll

☞ ⊙ = hard sticks with plastic heads at the rim of the cymbal

☞ = strike the side of the cymbal with the side of a wooden stick

☞ ⊙ = scrape the rim of the cymbal with the side of a metal triangle beater

☞ = plastic tip snare sticks

Cello:


silent fingering = “hammer on,” finger the notes on the fingerboard without bowing

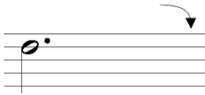
tonlos = bow directly on the bridge, little to no pitch discernible


air noise = “rauschen,” mute the string a little bit and use very light pressure, resulting in a breathy sound with a touch of pitch

∞∞∞∞∞ = circular bowing. Quarter note (crochet) equals 48. One rotation per beat.

Xiao:

 = cover most of the split edge of the xiao with the bottom lip and blow, no pitch discernible

 = Quarter-tone bend: drop pitch by approximately a quarter-tone on the last half beat of the note's duration. The graphic above indicates to bend on the second half of beat three. The bend is executed by lessening breath support while tilting the mouthpiece away from the mouth.

 = Lift-off: on the eighth note (quaver), release all fingers while simultaneously stopping breath, resulting in a percussive sound

Zephyr

47

Margaret Collins Stoop

Mysterious stillness ♩ = 48

Xiao

Suspended Cymbal

Cello

SB ⊙ → ⊙

mf *mp* *mp*

slilent fingering

p

8

Xiao

Cym.

Vc.

mp *a niente*

tonlos

p

13

Xiao

Cym.

Vc.

a niente *ord.* *mp*

shr *ppp* *mp* *ppp* *mf* *ppp*

air noise

p *mf* *p*

> a niente

19

Xiao

Cym.

Vc.

mp

p *p*

p

25

Xiao *mp*

Cym. *mp* ord.

Vc. *mf* \triangleright *p* *pp* \triangleleft *mp* \triangleright *pp* *p* \triangleleft

31

Xiao *p*

Cym. *mp*

Vc. *mf* \triangleleft *f*³ \triangleright *mf* *espress.*

37

Xiao *mp* *pp* *mp*

Cym. *mp*

Vc. *p*

42

Xiao *mp*

Cym. *shr* *mp* \triangleright *p* *p* *scrape* \odot *shr* *p* \triangleleft *mp* \triangleright

Vc. *mp* *p* *sul tasto*

48

Xiao *mp*

Cym. *p* *p* *mp* *p*
↑scrape ☉ shr ↑scrape ☉

Vc. *p* *mp*

54

Xiao *mf*

Cym. *p* *mp* *p* *mf*
shr ↑scrape ☉

Vc. *mf*
moving away from fingerboard ord. 3

61

Xiao

Cym. *mf* *mp* *mf* *mp*

Vc. *mf* *mp* sul tasto

67

Xiao *mf* (watch for cello cue)

Cym. *mf* *mf* (watch for cello cue)

Vc. *mf* *mp*
moving away from fingerboard ord.

71

Xiao *mf* *tumbling freely* (watch xiao for cue)

Cym. *mp* *tumbling freely* SB (watch xiao for cue) SB

Vc. *mf* *mp* (watch xiao for cue)

74

Xiao *p* *mp*

Cym. *p* ↑scrape

Vc. *p* air noise ord. *p* *mp*

77

Xiao *p*

Cym. ↑scrape *p* *mp*

Vc. *mp* *p* tonlos air noise *p*

84

Xiao *mp* *pp* *mp*

Cym. *mp* *p*

Vc. *mp* silent fingering

89

Xiao *p* *mp*

Cym. *mp*

Vc. *ppp* *pp* *a niente* *ord.* *p*

94

Xiao

Cym.

Vc. *tumbling freely* *mf* *mp*

97

Xiao *p* *a niente*

Cym. *pp* *ppp* *scrape*

Vc. *pp* *p* *pp*

Glissade

Glossary and Performance Notes

Instrumentation: high D tin whistle, slide whistle, alto flute, bass clarinet, and snare drum

The clarinet is notated one whole step above concert pitch.

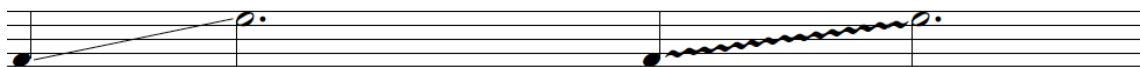
Duration: 6'15"

The title 'Glissade' makes reference to a sliding dance step. The piece was inspired by a poem by Oliver Postgate, in which the tin whistle evolves from toy to 'real instrument.'

When I was nothing but a very little boy
My own tin whistle was a favourite toy
I played it madly; I played it sadly;
I played it gladly; for my private joy!
Now I'm a man I'll play it, pleasure bent,
Not merely a toy but a real instrument.

Performance notes:

All grace notes are to be played as quickly as possible.



Slide: bending without perception of individual half steps

Glissando: playing chromatic notes



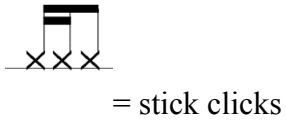
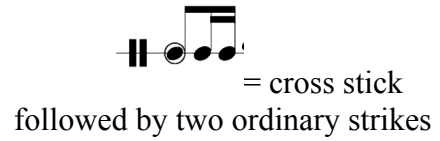
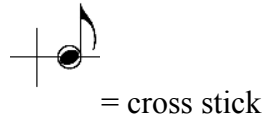
Lift-off: on the eighth note (quaver), release all fingers while simultaneously stopping breath, resulting in a percussive sound



Quarter-tone bend: drop pitch by approximately a quarter-tone on the last half beat of the note's duration. The graphic above indicates to bend on the second half of beat three.

SNARE DRUM:

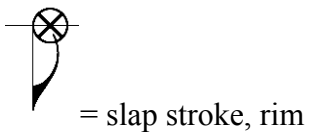
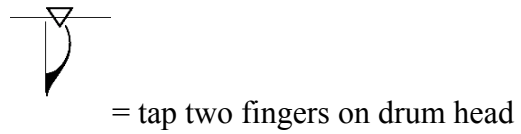
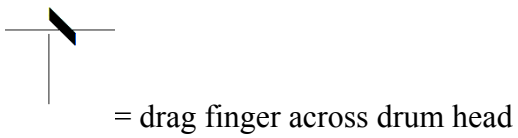
All techniques with sticks have stems up.



single hand swipe motion on drum head



All techniques without sticks have stems down.



Glissade

Margaret Collins Stoop

Relaxed ♩=76

Quite freely

*with warm vibrato throughout
gliss.*

High D Tin Whistle

Slide Whistle
(approximate pitches)

Alto Flute
(sounds 4th lower)

Bass Clarinet
(sounds 9th lower)

Snare Drum
(snares on)

7

T.W.

S.W.

cue slide whistle

slide positioned all the way out

cue tin whistle

slide all the way up

mp *p* *mp*

mp *mf*

12

T.W.

S.W.

p *mp*

16

In strict time

T.W.

S.W.

B. Cl.

key clicks

as loudly as possible

mf *mp* *mp*

Glissade

21

T.W. *mp*

S.W. *mf* *mp* key clicks 6

A. Fl. key clicks 6 as loudly as possible

B. Cl. 6

S.Dr. drag fingers *mf* finger tap to sticks stick click *mp*

26

T.W. *mp* *mf* *mp* finger vibrato ord.

S.W. *mf* *f* vibrato

A. Fl. 3

B. Cl. *p*

S.Dr. cross stick

31

T.W. *mp* *tr*

S.W. *mp* ord. jump down

A. Fl. *mf* *p* 6 as loudly as possible

B. Cl. *mp* *p* molto vibrato ord.

S.Dr. slap stroke rim *mf* to sticks *mp* *mp*

Glissade

38

T.W. *tr* *mp*

S.W. *vibrato* *mf*

A. Fl. *mp* *p* *quarter-tone bend*

B. Cl. *molto vibrato* *p* *mp* *ord.* *p*

S.Dr. *mp*

43

T.W. *echoing key clicks* *6* *fluttertongue*

S.W. *fluttertongue* *echoing key clicks* *mp* *3* *p* *6* *mp* *3* *p*

A. Fl. *mp* *3* *p* *6* *mp* *3* *p*

B. Cl. *molto vibrato ord.* *p* *mp*

S.Dr. *mp*

48

T.W. *mf*

S.W. *fluttertongue* *mf*

A. Fl. *mf*

B. Cl. *mf*

S.Dr. *p* *to sticks* *mp* *set sticks aside* *mf* *mp*

Glissade

54

T.W.

S.W.

A. Fl.

B. Cl.

S. Dr.

mp

mp

to sticks

mp

gliss.

60

T.W.

S.W.

A. Fl.

B. Cl.

S. Dr.

f

lift-off⁺

quarter-tone bend

mf < *f*

mf < *f*

lift-off⁺

lift-off⁺

f

f

67

T.W.

S.W.

A. Fl.

B. Cl.

S. Dr.

mp *mf*

finger vibrato

ord.

mp

mp

mp

mp > *ppp* *mp*

Glissade

93

Musical score for measures 93-97. The score is for five instruments: T.W. (Trumpet in Water), S.W. (Trumpet in Water), A. Fl. (Alto Flute), B. Cl. (Bass Clarinet), and S. Dr. (Snare Drum). The key signature is three sharps (F#, C#, G#) and the time signature is 4/4. The T.W. part has a melodic line with slurs and accents. The S.W. part is silent. The A. Fl. part has a melodic line with slurs. The B. Cl. part has a melodic line with slurs. The S. Dr. part has a rhythmic pattern of eighth notes, with a *mf* dynamic marking and a slur over the first two measures.

98

Musical score for measures 98-101. The score is for five instruments: T.W. (Trumpet in Water), S.W. (Trumpet in Water), A. Fl. (Alto Flute), B. Cl. (Bass Clarinet), and S. Dr. (Snare Drum). The key signature is three sharps (F#, C#, G#) and the time signature is 4/4. The T.W. part has a melodic line with slurs and accents, with a *mp* dynamic marking. The S.W. part is silent. The A. Fl. part has a melodic line with slurs and accents, with *p* and *pp* dynamic markings. The B. Cl. part has a melodic line with slurs and accents, with *p* and *pp* dynamic markings. The S. Dr. part has a rhythmic pattern of eighth notes, with a *mp* dynamic marking.

102

Musical score for measures 102-106. The score is for five instruments: T.W. (Trumpet in Water), S.W. (Trumpet in Water), A. Fl. (Alto Flute), B. Cl. (Bass Clarinet), and S. Dr. (Snare Drum). The key signature is three sharps (F#, C#, G#) and the time signature is 4/4. The T.W. part has a melodic line with slurs and accents, with *p* and *mp* dynamic markings. The S.W. part is silent. The A. Fl. part has a melodic line with slurs and accents, with *p* and *mp* dynamic markings. The B. Cl. part has a melodic line with slurs and accents, with *p* and *mp* dynamic markings. The S. Dr. part has a rhythmic pattern of eighth notes, with a *mf* dynamic marking and a slur over the first two measures.

Glissade

107

T.W. *mf*

S.W. *mp*

A. Fl. *mp*

B. Cl. *mp*

S. Dr. *p* *mf*

take second wire brush

111

T.W. *p*

S.W. *f* *mp*

A. Fl. *f* *mp* *p*

B. Cl. *f* *mp* *p*

S. Dr. *f*

Cadenza: to be played quite freely, like the opening measures

118

T.W. *mp*

122

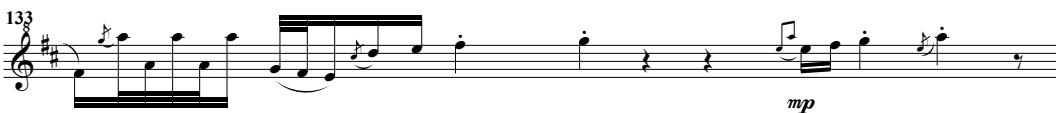
T.W. *p* *accel.*

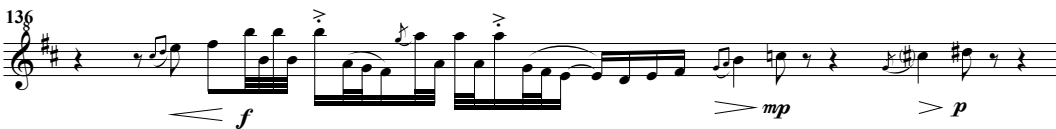
126

T.W. *mp* *a tempo* *tr.* *accel.*

130

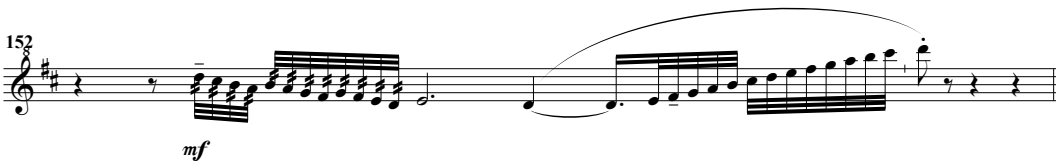
T.W. *mf* *a tempo* *tr.*

133
T.W. 

136
T.W. 

140
T.W. 

146
T.W. 

152
T.W. 

Cloud Shadows

Glossary and Performance Notes

Instrumentation: high D tin whistle, Native American flute with an F# fundamental, xiao with a D fundamental (in G), western concert flute, low D tin whistle

Duration: 7'25"

Performance Notes: Equal temperament is not required for the performance of 'Cloud Shadows'. On the contrary, the players are to perform in the tuning system characteristic of their flutes.

All parts are notated at concert pitch.

Relative dynamics are not written into the score.

All grace notes are to be played as quickly as possible.



Slide: half notes indiscernible



Quarter-tone bend: drop pitch by approximately a quarter-tone on the last half beat of the note's duration. The graphic above indicates to bend on the second half of beat three.



Lift-off: on the eighth note (quaver), release all fingers while simultaneously stopping breath, resulting in a percussive sound.



Flutter tongue

Finger vibrato: tap two fingers on the open holes two steps below the note being played.

14

(♩ = ♩) ♩ = 60

Musical score for measures 14-18. The score is for five instruments: TW (Trumpet), NAF (Natural Flute), Xi (Xiao), Fl. (Flute), and LW (Low Woodwind). The key signature has one sharp (F#) and the time signature is 4/4. The tempo is marked as ♩ = 60. Dynamics include mp, mf, and p. There are trills (tr) and accents (>) in the LW part.

19

Musical score for measures 19-25. The score is for five instruments: TW, NAF, Xi, Fl., and LW. Dynamics include ppp, mp, and p. There are accents (+) in the NAF and Xi parts.

26

Musical score for measures 26-31. The score is for five instruments: TW, NAF, Xi, Fl., and LW. Dynamics include pp, p, mp, and mf. There are trills (tr) in the NAF part and specific vibrato markings (finger vibrato, senza vib., fing. vib.) in the LW part.

33

Musical score for measures 33-37. The score is for five instruments: TW (Trumpet), NAF (Natural Horn), Xi (Xylophone), FL (Flute), and LW (Low Woodwind). The key signature has one sharp (F#). Measure 33 starts with a dynamic of *p*. The TW part has a slur over measures 33-37. The NAF part has a slur over measures 33-37. The Xi part has a slur over measures 33-37. The FL part has a slur over measures 33-37. The LW part has a slur over measures 33-37. Dynamics include *mp*, *mf*, *p*, and *pp*. Performance instructions include *legato (soft tongue)*, *fing. vib.*, and *ord.*.

38

Musical score for measures 38-42. The score is for five instruments: TW (Trumpet), NAF (Natural Horn), Xi (Xylophone), FL (Flute), and LW (Low Woodwind). The key signature has one sharp (F#). Measure 38 starts with a dynamic of *p*. The TW part has a slur over measures 38-42. The NAF part has a slur over measures 38-42. The Xi part has a slur over measures 38-42. The FL part has a slur over measures 38-42. The LW part has a slur over measures 38-42. Dynamics include *p*, *mp*, *mf*, and *pp*. Performance instructions include *no breath*, *tr*, and *ord.*.

43

Musical score for measures 43-47. The score is for five instruments: TW (Trumpet), NAF (Natural Horn), Xi (Xylophone), FL (Flute), and LW (Low Woodwind). The key signature has one sharp (F#). Measure 43 starts with a dynamic of *pp*. The TW part has a slur over measures 43-47. The NAF part has a slur over measures 43-47. The Xi part has a slur over measures 43-47. The FL part has a slur over measures 43-47. The LW part has a slur over measures 43-47. Dynamics include *pp*, *mp*, and *mf*. Performance instructions include *tr*, *ord.*, and *mf*.

48

Musical score for measures 48-52. The score is for five instruments: TW (Trumpet), NAF (Natural Trumpet), Xi (Xylophone), FL (Flute), and LW (Low Woodwind). The key signature has one sharp (F#) and the time signature is 2/4. Measure 48 starts with a *p* dynamic. Measure 49 has a *mp* dynamic. Measure 50 has a *pp* dynamic. Measure 51 has a *mp* dynamic. Measure 52 has a *mp* dynamic. The score includes various musical notations such as slurs, accents, and dynamic markings.

53

Musical score for measures 53-57. The score is for five instruments: TW (Trumpet), NAF (Natural Trumpet), Xi (Xylophone), FL (Flute), and LW (Low Woodwind). The key signature has one sharp (F#) and the time signature is 2/4. Measure 53 starts with a *mf* dynamic. Measure 54 has a *mf* dynamic. Measure 55 has a *mf* dynamic. Measure 56 has a *mf* dynamic. Measure 57 has a *mf* dynamic. The score includes various musical notations such as slurs, accents, and dynamic markings.

58

Musical score for measures 58-62. The score is for five instruments: TW (Trumpet), NAF (Natural Trumpet), Xi (Xylophone), FL (Flute), and LW (Low Woodwind). The key signature has one sharp (F#) and the time signature is 2/4. Measure 58 starts with a *mf* dynamic. Measure 59 has a *mf* dynamic. Measure 60 has a *mf* dynamic. Measure 61 has a *mf* dynamic. Measure 62 has a *mf* dynamic. The score includes various musical notations such as slurs, accents, and dynamic markings.

63

Musical score for measures 63-67. The score is for five instruments: TW (Trumpet), NAF (Natural Horn), Xi (Xylophone), Fl. (Flute), and LW (Low Woodwind). The key signature has one sharp (F#) and the time signature is 3/4. The music features sixteenth-note patterns and rests. Dynamics include *mf* (mezzo-forte). Measure numbers 63, 64, 65, 66, and 67 are indicated at the top of the staves.

68

Musical score for measures 68-71. The score is for five instruments: TW (Trumpet), NAF (Natural Horn), Xi (Xylophone), Fl. (Flute), and LW (Low Woodwind). The key signature has one sharp (F#) and the time signature is 3/4. The music features sixteenth-note patterns and rests. Dynamics include *mf* (mezzo-forte). Measure numbers 68, 69, 70, and 71 are indicated at the top of the staves.

72

Musical score for measures 72-75. The score is for five instruments: TW (Trumpet), NAF (Natural Horn), Xi (Xylophone), Fl. (Flute), and LW (Low Woodwind). The key signature has one sharp (F#) and the time signature is 3/4. The music features sixteenth-note patterns and rests. Dynamics include *mf* (mezzo-forte). Measure numbers 72, 73, 74, and 75 are indicated at the top of the staves.

76

Musical score for measures 76-79. The score is for five instruments: TW (Trumpet), NAF (Natural Horn), Xi (Xylophone), Fl. (Flute), and LW (Low Woodwind). The key signature has one sharp (F#) and the time signature is 4/4. Measure 76 starts with a dynamic of *mf*. Measures 77-79 contain complex rhythmic patterns with triplets and sextuplets. Dynamics include *mf* and *mf* with accents.

80

Musical score for measures 80-83. The score is for five instruments: TW, NAF, Xi, Fl., and LW. The key signature has one sharp (F#) and the time signature is 4/4. Measure 80 starts with a dynamic of *mp*. Measures 81-83 show a change in texture with more sustained notes and complex rhythmic patterns. Dynamics include *mp* and *mp* with accents.

84

Musical score for measures 84-87. The score is for five instruments: TW, NAF, Xi, Fl., and LW. The key signature has one sharp (F#) and the time signature is 4/4. Measure 84 starts with a dynamic of *mp*. Measures 85-87 show a change in texture with more sustained notes and complex rhythmic patterns. Dynamics include *mp* and *mp* with accents.

89

Musical score for measures 89-93. The score is for five instruments: TW (Trumpet), NAF (Natural Trumpet), Xi (Xylophone), Fl. (Flute), and LW (Low Woodwind). The key signature has one sharp (F#) and the time signature is 8/8. Measure 89 starts with a dynamic of *mp*. Measure 90 has a dynamic of *mp*. Measure 91 has a dynamic of *f*. Measure 92 has a dynamic of *f*. Measure 93 has a dynamic of *f*. Performance instructions include *fing. vib.* and *senza vib.* in measure 93, and *fing. vib.* and *ord.* in measure 92. The LW part has a dynamic of *mp* in measure 89, *mf* in measure 92, and *f* in measure 93.

94

Musical score for measures 94-98. The score is for five instruments: TW, NAF, Xi, Fl., and LW. Measure 94 has a dynamic of *p* for NAF and *f* for Xi. Measure 95 has a dynamic of *f* for Xi. Measure 96 has a dynamic of *mp* for LW. Measure 97 has a dynamic of *mp* for LW. Measure 98 has a dynamic of *mp* for LW.

101

Musical score for measures 101-105. The score is for five instruments: TW, NAF, Xi, Fl., and LW. Measure 101 has a dynamic of *mp* for NAF. Measure 102 has a dynamic of *mp* for NAF. Measure 103 has a dynamic of *mp* for Xi. Measure 104 has a dynamic of *mp* for Fl. Measure 105 has a dynamic of *mp* for Fl.

106

Musical score for measures 106-113. The score is for five instruments: TW (Trumpet), NAF (Natural Horn), Xi (Xylophone), Fl. (Flute), and LW (Low Woodwind). Measure 106 starts with a key signature change to one flat. Dynamics include *mp* and *mf*. There are accents (>) and breath marks (<>) in measures 107 and 108.

114

Musical score for measures 114-119. Dynamics include *mp*, *p*, and *mp*. There are accents (>) and breath marks (<>) in measures 115 and 116.

120

Musical score for measures 120-127. Dynamics include *mp*, *mf*, *p*, *pp*, and *mf*. There are accents (>) and breath marks (<>) in measures 121 and 122. The final measure (127) includes the instruction "fing. vib." for the NAF and Fl. parts.

Bird Suite

Glossary and Performance Notes

A suite in five movements

Total duration: 30 minutes

Instrumentation: xiao, string quartet, and two percussion players, with birdsong as the unifying theme.

The xiao used in the composition and premiere performance is an eight-hole xiao with a D fundamental. It is notated at concert pitch.

1. **Listen for the Birds** 5'45"

Percussion I: tam-tam, snare drum, triangle

Percussion II: triangle, rain stick, two wood blocks

2. **Woodpecker's Song** 3'50"

Percussion I: bell tree

Percussion II: tambourine

3. **Loons on the Lake** 6'30" (for solo xiao, strings and percussion tacet)

4. **Dancing Owl** 6'05"

Percussion I: crotales on snare drum, snare drum, suspended cymbal

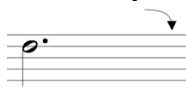
Percussion II: three wood blocks, shaker

5. **Shore Birds** 7'25"

Percussion I: ocean drum (40 cm), large thunder tube

Percussion II: bass drum and suspended cymbal

Glossary



= Quarter-tone bend down: drop pitch by approximately a quarter-tone on the last half beat of the note's duration. The graphic above indicates to bend on the second half of beat three.



= Quarter-tone bend up: slide up approximately one quarter-tone at the end of the note



Slide: bending without
perception of individual half steps

Glissando: playing chromatic notes

All slides are to be performed as slowly as possible.

All grace notes are to be played as quickly as possible and before the beat.

Xiao

tut: begin and end the note with a sharp tongue

k: begin note with the back of the tongue

t: return to ordinary tonguing

h: begin note without any tongue articulation



= lift-off: Release all fingers while simultaneously stopping breath, resulting in a percussive sound with indiscernible pitch



= harmonic. Finger G and overblow to sound D6

Strings



= a diamond note head indicates air noise: mute the string a little bit and use very light pressure, resulting in a breathy sound with a touch of pitch



= x note head indicates to exhale audibly, no phonation



= Bartók pizzicato

Percussion

1. Listen for the Birds

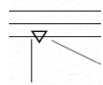
Both Percussion I and Percussion II are notated on a three-line staff for this movement.

Percussion I:

Tam-tam:



notated on the bottom staff line, stems down



diamond note head on bottom line: scrape edge of tam-tam with triangle beater

Snare Drum:



notated on the top line, stems down



= single hand swipe with wire brush on snare drum head, in steady pulses

Triangle:



notated on the space above the top line, stems up



= choke. A staccato mark above the note indicates to stop sound with hand to end note

(Listen for the Birds, Percussion I, triangle continued)



= mute triangle with hand before sounding the note

Percussion II:

Triangle:



notated on the space above the top line, stems up

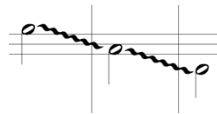


= choke. A staccato mark above the note indicates to stop sound with hand to end note

Rain Stick:



or



= allow beads to cascade for the duration



= holding horizontally, shake the rain stick in quaver pulses, notated on the bottom space, stems up

Two Wood Blocks:



Low on bottom line, high on top line, both with stems down

2. Woodpecker's Song

Percussion I:

Bell Tree: The pitches are chosen at the player's discretion. The placement of notes in the staff gives a general shape to the musical gestures.



= bracket denotes repeated pitches



= choke. A staccato mark above the note indicates to stop sound with hand.



= mute bell with hand, before sounding pitch

4. Dancing Owl

Percussion I:

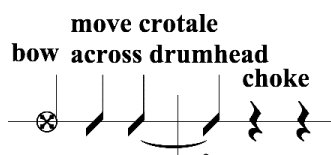
Notated on a single line staff for his movement

Snare Drum:

Notated on the staff line



= bow the low crotale, which has been placed on the edge of the snare drum.



= after bowing the crotale, move it across drum head with hand. At the staccato mark, choke (stop) the sound by touching the crotale.

(Dancing Owl, Percussion I, snare drum continued)



= stems down, swipe drum head in circular motion.
Stems up: strike

Suspended Cymbal:



notated on the space above the staff line, stems up



= scrape the cymbal with a coin

Percussion II:

Notated on a three-line staff for this movement



three Wood Blocks: low, medium, and high, all stems down



Shaker: notated on the space above the top staff line, stems up

5. Shore Birds

Both Percussion I and Percussion II are notated on a single line staff for this movement.

Percussion I:

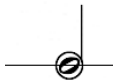
Ocean Drum:

Notated on the staff line, stems up.

To be held horizontally, as a platter, or vertically, with the rim facing the floor



= holding drum vertically, tap drum head with fingers



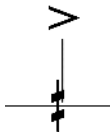
= slow swirl: holding drum horizontally, slowly swirl beads



= quick swirl: holding drum horizontally, make a quick swirling motion, one rotation



= shake: holding drum vertically, shake beads in up and down motion

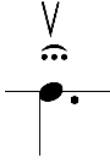


= crack: Holding drum horizontally, make a forceful vertical movement so that the beads strike the head

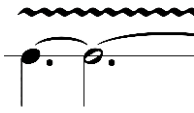
(Shore Birds, Percussion I continued)

Thunder Tube:

Notated on the staff line, stems down



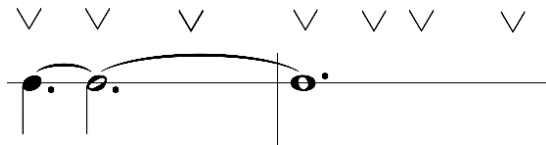
= long snap: pull the full length of the metal spring and let it snap against the drum head, resulting in a loud sound.



= rocking sustain: sustain the sound of the long snap by rocking the drum side to side, about 30 degrees in either direction.



= short snap: grasping the metal spring about half way down its length, release to create a sound at a lower dynamic than the long snap.



= hand sustain: holding tube upright, move an open palm up and down over the open end of the drum to create a sustained vibrato.

(Shore Birds continued)

Percussion II:

Bass Drum:

Notated on the staff line, stems down



= strike rim of drum with bamboo bundle sticks



= ordinario

Suspended Cymbal:

Notated on the space above the staff, stems up



= strike the edge of the cymbal with the side of the beater

Bird Suite

1. Listen for the Birds

Margaret Collins Stoop

With quiet expectation ♩ = 112

This system includes staves for Xiao, Percussion I, Percussion II, Violin I, Violin II, Viola, and Cello. The time signature is 2/4. Percussion I has specific instructions: 'Tam-tam triangle beater scrape edge' with dynamics *p* and *f*, 'let vibrate', 'Triangle' with 'let vibrate' and *mf*, and 'choke' with *p*. Percussion II has a 'choke' instruction with *p*. The string staves (Violin I, Violin II, Viola, Cello) are currently empty.

10

This system includes staves for Perc. I, Perc. II, Vln. I, Vln. II, Vla., and Vc. Perc. I has a 'to Rain Stick' instruction. Perc. II has a 'Rain Stick' instruction with a wavy line. The string staves (Vln. I, Vln. II, Vla., Vc.) are filled with notes and have 'air noise (wind in the trees)' and 'exhale (audibly, without pitch)' instructions. Dynamics include *pp* and *ppp*.

18

Xiao

Perc. I

Tam-tam l.v.

mf

f tut tut

mf fluttertongue

29

Perc. II

Rain Stick

Vln. I

Vln. II

Vla.

Vc.

mp

mp

mp

mp

ppp

ppp

ppp

ppp

36

Xiao

Perc. I

Tam-tam l.v.

mp

f tut

to Snare Drum

take wire brushes

mf

44

Xiao

Perc. I

Perc. II

Vln. I

Vln. II

Vla.

Vc.

Rain Stick

to Wood Blocks

f

pp

ppp

54

Xiao

Perc. I

Perc. II

Vln. I

Vln. II

Vla.

Vc.

Wood Blocks
one low, one high

f

mf

ord.

61

Xiao *mf* *mf* *tut*

Perc. I *mp* Snare Drum wire brushes to Rain Stick

Perc. II *f*

Vln. I *mf* *pp*

Vln. II *mf*

Vla. *f* *pp* pizz. arco

Vc. *f* pizz. arco

68

Xiao *f*

Perc. I *p* single hand swipe on drum head roll to Tam-tam take soft beaters

Perc. II

Vln. I *pp*

Vln. II *pp*

Vla. *pp*

Vc. *pp*

74

Xiao *p* *f* k t k t k tut

Perc. I

Perc. II Rain Stick

Vln. I *ppp* exhale as loudly as possible a niente

Vln. II *ppp* exhale as loudly as possible a niente

Vla. *ppp* as loudly as possible a niente

Vc. *ppp* as loudly as possible a niente

82

Xiao *mp* *mp* tut

Perc. I

Perc. II

Vln. I as loudly as possible a niente *pp*

Vln. II as loudly as possible a niente

Vla. as loudly as possible a niente *pp*

Vc. as loudly as possible a niente

91

Xiao

Perc. I Tam-tam soft beaters l.v.

shake in quaver pulses

Perc. II

gradually allow pitch to enter the note

pp

gradually to ord.

ord.

Vln. I

pp

gradually allow pitch to enter the note

gradually to ord.

ord.

mp

Vln. II

pp

gradually allow pitch to enter the note

gradually to ord.

ord.

mp

Vla.

pp

gradually allow pitch to enter the note

gradually to ord.

ord.

mp

Vc.

pp

gradually to ord.

mp

100

Xiao

Perc. I l.v.

to Wood Blocks

pp

Vln. I

pp

mp

pp

Vln. II

pp

mp

pp

Vla.

pp

mp

pp

Vc.

pp

mp

pp

107

Xiao

Tam-tam *p* *f* *mf*

l.v. take triangle beater

Perc. I *pp* *mp* Wood Blocks

Perc. II *f*

Vln. I *p* *f* *mf* *mp*

Vln. II *p* *f* *mf* *mp*

Vla. *p* *f* pizz. arco *mf* *mp*

Vc. *p* *f* *mf* *mp*

115

Xiao

to Snare Drum

l.v. take wire brushes

Perc. I *f*

Perc. II *mp* *f*

Vln. I *pp* *mf* *f*

Vln. II *pp* *mf* *f*

Vla. *pp* *mf* *f*

Vc. *pp* *mf* *f*

124

Xiao

f *f sempre*

Perc. I

Wood Blocks

Perc. II

f *mf* *f*

Vln. I

f

Vln. II

f

Vla.

f

Vc.

f

131

Xiao

Perc. I

Perc. II

mp

Vln. I

arco *mf*

Vln. II

arco *mf*

Vla.

arco *mf*

Vc.

arco *mf*

136

Xiao

Perc. I

Perc. II

Vln. I

Vln. II

Vla.

Vc.

Wood Blocks

f *f*

mf *f*

mf *f*

mf *f*

mf *f*

mf *f*

k t k t k k t k t k

141

Xiao

Perc. I

Perc. II

Vln. I

Vln. II

Vla.

Vc.

Snare Drum wire brushes

to Tam-tam

take triangle beater

Tam-tam

f *f*

mf *mf* *mf* *mf*

tut

3

148

Xiao: *mf* *t k t* *tut* *f*

Perc. I: *mp* Triangle

Perc. II: Wood Blocks *mp* *sul tasto*

Vln. I: *mp* *sul tasto*

Vln. II: *mp* *sul tasto*

Vla.: *mf* *mp* *sul tasto*

Vc.: *mf* *mp* *sul tasto*

155

Xiao: *mf*

Perc. I: *mf*

Perc. II: *mf*

Vln. I: *mf* *ancora sul tasto*

Vln. II: *mf* *ancora sul tasto*

Vla.: *mf* *ancora sul tasto*

Vc.: *mf* *ancora sul tasto*

160

Xiao

Perc. I Triangle *f*

Perc. II Wood Blocks *mp* to Rain Stick Rain Stick *p*

Vln. I *mf* ancora sul tasto

Vln. II *mf* ancora sul tasto

Vla. *mf* ancora sul tasto *p sub.*

Vc. *mf* *p sub.*

165

Xiao tut t k t tut tut tut

Perc. I

Perc. II to Wood Blocks

Vln. I *ord.*

Vln. II *ord.*

Vla.

Vc.

171

Xiao

Perc. I

Perc. II

Vln. I

Vln. II

Vla.

Vc.

f

mf

pp

Wood Blocks

to Rain Stick

tut

177

Xiao

Perc. I

Perc. II

Vln. I

Vln. II

Vla.

Vc.

mp

mf

mp

p sub.

sul tasto

ancora sul tasto

p

185

Xiao *mp* *mf* *t k t* *tut k* *tut k* *tut k*

Perc. I Triangle *mp*

Perc. II

Vln. I *p*

Vln. II *mf* *p sub.*

Vla. *p*

Vc. *p*

192 *tut*

Xiao

Perc. I *mp* *3*

Perc. II Rain Stick *pp*

Vln. I *mf* *mp* *3*

Vln. II *p* *mf* *mp*

Vla. *p*

Vc. *p*

200

Xiao

Perc. I

Perc. II

Vln. I

Vln. II

Vla.

Vc.

Triangle

to Snare Drum

Snare Drum

wire brushes

mf

mp

pp

p

mp

p

mp

tut

t k t

tut tut

3

3

gradually move away from the fingerboard

ord.

gradually move away from the fingerboard

ord.

207

Xiao

Perc. I

Perc. II

Vln. I

Vln. II

Vla.

Vc.

to Triangle

Triangle

to Wood Blocks

Wood Blocks

f

f

mp

mp

ord.

mf

ord.

mf

tut

tut

k

tut

215

Xiao *mf* *tut*

Perc. I Triangle *mp*

Perc. II Wood Blocks *mp*

Vln. I *mf*

Vln. II *mf*

Vla. *mf*

Vc. *mf*

222

Xiao *mp* *mf* *mp*

Perc. I

Perc. II

Vln. I

Vln. II *3*

Vla.

Vc.

228

Xiao: *f*, *tut*, *mf*, *tut*

Perc. I: Triangle, *mp*

Perc. II: Wood Blocks, *mp*

Vln. I: *mf*

Vln. II: *mf*

Vla.: *mf*

Vc.: *mf*

to Snare Drum

234

Xiao: *mf*, *f*, *tut*, *tut*

Perc. I: take wire brushes

Perc. II: to Rain Stick

Vln. I: *f*, *pizz.*, *arco*

Vln. II: *f*, *pizz.*, *arco*

Vla.: *f*, *pizz.*, *arco*

Vc.: *f*, *pizz.*, *arco*

254

Xiao *tut* *k* *tut* *t k tut* *k t* *k t* *k t* *k* *tut*

mf Snare Drum *f*

Perc. I Wood Blocks *p*

Perc. II *mp*

Vln. I

Vln. II

Vla.

Vc.

261

Xiao

Perc. I *to Triangle* Triangle *mp*

Perc. II *mp*

Vln. I *ord.* *mf*

Vln. II *ord.* *mf*

Vla. *ord.* *mf*

Vc. *ord.* *mf*

268

Xiao *f*

Perc. I Triangle *mp* to Snare Drum take wire brushes

Perc. II Wood Blocks *mp*

Vln. I *mp*

Vln. II *mf*

Vla. *mf*

Vc. *mf*

273

Xiao *mf* *f* to Tam-tam take triangle beater

Perc. I Snare Drum wire brushes *mp*

Perc. II to Rain Stick

Vln. I

Vln. II

Vla.

Vc.

279

Xiao *f* *mf* *pp*

Perc. I

Rain Stick

Perc. II *p*

Vln. I *mp*

Vln. II *mp*

Vla. *mp*

Vc. *mp*

286

Xiao

Perc. I Tam-tam triangle beater l.v. *p* *f*

to Triangle

Vln. I *pp* *p* *a niente*

Vln. II *pp* *p* *a niente*

Vla. *pp* *p* *a niente*

Vc. *p* *pp* *a niente*

294

Xiao *mf* tut tut tut t k

Perc. I Tam-tam l.v.

Perc. II Triangle *mf* l.v.

304

Xiao tut

Perc. I l.v.

Perc. II *f* l.v.

311

Xiao *f*

Perc. I l.v. *f*

Perc. II to Rain Stick Rain Stick

Vln. I *mp* *p* *pp* *a niente*

Vln. II *mp* *p* *pp* *a niente*

Vla. *mp* *p* *pp* *a niente*

Vc. *mp* *p* *pp* *a niente*

2. Woodpecker's Song

Driving ♩ = 96

Margaret Collins Stoop

Xiao

Bell Tree

Tambourine

Violin I

Violin II

Viola

Cello

mf

Pitches are chosen at player's discretion. Repeated pitches are bracketed.

hard plastic mallets

choke

mp

f

mp

f

mp

f

mp

f

3

tut tut >

B.T.

Tamb.

Vln. I

Vln. II

Vla.

Vc.

same pitches

mp

f

mp

f

thumb roll

p

f

mp

f

mp

6

6

tut tut

mf *f*

B.T. *mp*

Tamb. *mf* thumb roll *p* *mf*

Vln. I *f* *mp* *f*

Vln. II *f* *mp*

Vla. *f* *mp*

Vc. *mp* *f* *mp* *f*

Detailed description: This block contains the musical score for measures 6 through 8. The top staff is the vocal line, starting with a measure rest, followed by a melodic phrase marked *mf* with a 'tut' marking above it, and then a measure rest followed by a note marked *f*. The B.T. (Bass Trombone) part has a measure rest, then a note marked *mp*, and then a measure rest. The Tambourine part has a measure rest, then a note marked *mf*, followed by a 'thumb roll' marked *p*, and then a note marked *mf*. The Vln. I part has a note marked *f*, a measure rest, a note marked *mp*, a measure rest, and a note marked *f*. The Vln. II part has a note marked *f*, a measure rest, and a series of eighth notes marked *mp*. The Vla. part has a note marked *f*, a measure rest, and a series of eighth notes marked *mp*. The Vc. part has a series of eighth notes marked *mp*, a note marked *f*, a series of eighth notes marked *mp*, and a note marked *f*.

9

9

mf

B.T. *mf* *p*

Tamb. *p*

Vln. I arco *p*

Vln. II arco *p*

Vla. *f* *p* fingertap on body of viola

Vc. *f* *p* fingertap on body of cello

k t tut

Detailed description: This block contains the musical score for measures 9 through 11. The top staff is the vocal line, starting with a measure rest, followed by a melodic phrase marked *mf*, and then a measure rest followed by notes marked *k*, *t*, and *tut*. The B.T. part has a measure rest, then a series of eighth notes marked *mf*, and then a note marked *p*. The Tambourine part has a measure rest, then a series of eighth notes marked *p*, and then a series of eighth notes marked *p*. The Vln. I part has a note marked *f*, a measure rest, and then a measure rest followed by a note marked *p* with 'arco' above it. The Vln. II part has a note marked *f*, a measure rest, and then a measure rest followed by a note marked *p* with 'arco' above it. The Vla. part has a note marked *f*, a measure rest, and then a series of eighth notes marked *p* with 'fingertap on body of viola' below it. The Vc. part has a note marked *f*, a measure rest, and then a series of eighth notes marked *p* with 'fingertap on body of cello' below it.

12

mf *f*

B.T. *p*

Tamb. *p*

Vln. I *p*

Vln. II *p*

Vla. *p*

Vc. *p*

Detailed description: This system covers measures 12 and 13. The vocal line (Vc.) starts with a melody in measure 12, marked *mf*, and continues in measure 13, marked *f*. The B.T. part has a rhythmic pattern in measure 12, marked *p*, and continues in measure 13. The Tamb. part has a rhythmic pattern in measure 12, marked *p*, and continues in measure 13. The Vln. I and Vln. II parts have a rhythmic pattern in measure 12, marked *p*, and continue in measure 13. The Vla. part has a rhythmic pattern in measure 12, marked *p*, and continues in measure 13. The Vc. part has a rhythmic pattern in measure 12, marked *p*, and continues in measure 13.

14

mf *f*

B.T. *mf* *mp*

Tamb. *p*

Vln. I

Vln. II

Vla. *p*

Vc. *p*

k t tut *tut*

Detailed description: This system covers measures 14, 15, and 16. The vocal line (Vc.) starts with a melody in measure 14, marked *mf*, and continues in measure 15, marked *f*. The B.T. part has a rhythmic pattern in measure 14, marked *mf*, and continues in measure 15, marked *mp*. The Tamb. part has a rhythmic pattern in measure 14, marked *p*, and continues in measure 15. The Vln. I and Vln. II parts have a rhythmic pattern in measure 14, marked *p*, and continue in measure 15. The Vla. part has a rhythmic pattern in measure 14, marked *p*, and continues in measure 15. The Vc. part has a rhythmic pattern in measure 14, marked *p*, and continues in measure 15. The vocal line (Vc.) starts with a melody in measure 16, marked *f*, and continues in measure 17, marked *f*. The B.T. part has a rhythmic pattern in measure 16, marked *mp*, and continues in measure 17. The Tamb. part has a rhythmic pattern in measure 16, marked *p*, and continues in measure 17. The Vln. I and Vln. II parts have a rhythmic pattern in measure 16, marked *p*, and continue in measure 17. The Vla. part has a rhythmic pattern in measure 16, marked *p*, and continues in measure 17. The Vc. part has a rhythmic pattern in measure 16, marked *p*, and continues in measure 17. The vocal line (Vc.) starts with a melody in measure 18, marked *f*, and continues in measure 19, marked *f*. The B.T. part has a rhythmic pattern in measure 18, marked *mp*, and continues in measure 19. The Tamb. part has a rhythmic pattern in measure 18, marked *p*, and continues in measure 19. The Vln. I and Vln. II parts have a rhythmic pattern in measure 18, marked *p*, and continue in measure 19. The Vla. part has a rhythmic pattern in measure 18, marked *p*, and continues in measure 19. The Vc. part has a rhythmic pattern in measure 18, marked *p*, and continues in measure 19. The vocal line (Vc.) starts with a melody in measure 20, marked *f*, and continues in measure 21, marked *f*. The B.T. part has a rhythmic pattern in measure 20, marked *mp*, and continues in measure 21. The Tamb. part has a rhythmic pattern in measure 20, marked *p*, and continues in measure 21. The Vln. I and Vln. II parts have a rhythmic pattern in measure 20, marked *p*, and continue in measure 21. The Vla. part has a rhythmic pattern in measure 20, marked *p*, and continues in measure 21. The Vc. part has a rhythmic pattern in measure 20, marked *p*, and continues in measure 21.

23

mf *f* *f* *mf* *tut* *tut*

roll whole tree

B.T. *mp*

Tamb. *mp* pizz. *mp*

Vln. I pizz. *f* *mp* *f*

Vln. II *f* *mp*

Vla. *f* *mp*

Vc. *mp* *f* *mp* *f*

26

tut *tut* *t k t tut*

B.T. *mf*

Tamb. *p* thumb roll *mf*

Vln. I *mp*

Vln. II *f* *mp*

Vla. *f*

Vc. *mp* *f*

29

Score for measures 29-31. The top staff is the vocal line with lyrics 'k t' above it. Dynamics include *f*. The B.T. staff has *mf*. The Tamb. staff has *mp* and a 'shake' marking. Vln. I has *mp* and *f*. Vln. II has *mp* and *mf*. Vla. has *mp* and *mf*. Vc. has *mp* and *f*.

32

Score for measures 32-34. The top staff has *mf*. The B.T. staff has *mp* and *p*. The Tamb. staff has *mf* and *p*, with a 'thumb roll' marking. Vln. I has *arco* and *mp*. Vln. II has *arco* and *mp*. Vla. has *arco* and *mp*, with a *non legato* marking. Vc. has *arco* and *mp*.

36

f *tut* *mf*

B.T. *mf* *mp*

Tamb. *mf*

Vln. I *mp* *mf* *mp*

Vln. II *mp* *mf* *mp*

Vla. *mp* *mf* *mp*

Vc. *mp* *mf* *mp*

40

mp *tut*

B.T. *p* *mf*

Tamb. *p* *mf* *thumb roll*

Vln. I *mf* *non legato*

Vln. II *mf* *non legato*

Vla. *mf* *non legato*

Vc. *mf* *non legato*

43

mp

B.T. *mf*

Tamb. *mf*

Vln. I *mf* pizz. *mf*

Vln. II *mf*

Vla. *mf* pizz. *mf*

Vc. *mf* non legato

46

mp *mf*

B.T. *mf* *p* *mf*

Tamb. thumb roll *p* *mf*

Vln. I arco

Vln. II pizz. *mf* arco

Vla. arco

Vc. pizz. *mf* arco non legato

49 *tut tut tut tut*

f *mf* *mf* *f*

mf *mf* *mp*

mf *mf* *f* *mp*

mf *mf* *f* *mp*

mf *mf* *f* *mp*

mf *mf* *f* *mp*

53 *tut tut tut*

mf *mf* *mf*

mp *mp*

mp *f*

mp *mp*

f *mp* *f*

56

tut

t k t tut

mf

f

B.T.

mp

thumb roll

mf

shake

mp

Vln. I

f

mp

f

Vln. II

f

mp

Vla.

f

mp

Vc.

mp

f

mp

f

59

f

p

B.T.

mf

roll whole tree

shake

mf

Vln. I

Vln. II

Vla.

f

Vc.

f

70

Score for measures 70-72. The score includes parts for Flute (F), B.T. (Bass Trombone), Tambourine (Tamb.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.).

- Flute (F):** Starts with a dynamic of *f* and a key signature change to B-flat major. Ends with a dynamic of *mf*.
- B.T. (Bass Trombone):** Starts with *mp*, then *p*, and ends with *mf*.
- Tamb. (Tambourine):** Starts with *p* and includes a "thumb roll" instruction. Ends with *mf* and a "non legato" marking.
- Vln. I (Violin I):** Starts with *mp* and ends with *mf* and a "non legato" marking.
- Vln. II (Violin II):** Starts with *mp* and ends with *mf* and a "non legato" marking.
- Vla. (Viola):** Starts with *mp* and ends with *mf* and a "non legato" marking.
- Vc. (Violoncello):** Starts with *mp* and ends with *mf* and a "non legato" marking.

73

Score for measures 73-75. The score includes parts for Flute (F), B.T. (Bass Trombone), Tambourine (Tamb.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.).

- Flute (F):** Starts with a dynamic of *f* and includes a trill instruction. Ends with a dynamic of *f*.
- B.T. (Bass Trombone):** Ends with a dynamic of *mf* and a "roll half tree" instruction.
- Tamb. (Tambourine):** Continues with rhythmic patterns.
- Vln. I (Violin I):** Continues with melodic lines.
- Vln. II (Violin II):** Continues with melodic lines.
- Vla. (Viola):** Continues with melodic lines.
- Vc. (Violoncello):** Continues with melodic lines.

77

mp *p* *mf* *f*

B.T. *p* *mf* *f*

Tamb. *p* *p* thumb roll

Vln. I *pizz.* *p* *f*

Vln. II *pizz.* *p* *f*

Vla. *pizz.* *p* *f*

Vc. *pizz.* *p* *mp*

81

mf *mp* *tut* *tut* *tut*

B.T. *mf* *mf*

Tamb. *mf* *mp* *mp* shake

Vln. I *mp* *f* *f*

Vln. II *mp* *mp*

Vla. *mp* *mp*

Vc. *f* *mp* *f* *f*

84

mp *f* *tut* *t k t tut*
 B.T. *mf*
 Tamb. *mf*
 Vln. I *f* *f* *arco*
 Vln. II *f* *mp* *mf* *f* *arco*
 Vla. *f* *f* *arco*
 Vc. *mp* *f* *f* *arco*

87

mf *f* *roll whole tree*
 B.T. *mf* *f*
 Tamb. *shake* *p* *f* *shake*
 Vln. I *f* *pizz.*
 Vln. II *f* *pizz.*
 Vla. *f* *pizz.*
 Vc. *f* *pizz.*

3. Loons on the Lake

Margaret Collins Stoop

Quite freely, contemplative ♩ = 69

allow pitch to fluctuate with dynamic change

allow pitch to fluctuate with dynamic change

Xiao

ord.

p < *f* > *p* *ppp* *mf* *p* < *f* > *p*

Voice (sing into xiao, unless there are lyrics)

pp < *mp* > *ppp*

tut tut

Xiao

ord.

ppp *mf* *p* *mp*

Voice

pp < *p* > *ppp*

tut

Xiao

h

mf *mp* *mf*

Voice

pp < *mp* *p*

tut

Xiao

p *mf* *mp* *mf* *mp*

Voice

pp *p* *mf* *mp*

Hooo

tut

Xiao

non cresc. *mf*

Voice

p < *mp* > *pp* *p* *ppp*

Hooo, Hooo

tut

Xiao

mp

k t k tut

39 fluttertongue
Xiao *mp* *p* *mp* *p*
Voice *p* *mp* *p*

44
Xiao *mp* *mf*

48
Xiao *f*

51
Xiao *ord.*

54
Xiao *mp* *mp*
Voice *p*

59
Xiao *p* *mp*
Voice *pp* *p* *mp* *p* *ppp* *p*

65
Xiao *pp* *p* *ppp* *mp*

Xiao

mp *mf* tut

Xiao

mp *p* *mp* double tongue

Xiao

mf double tongue

Xiao

flutter lift off ord. *<f*

Xiao

mp *p* *p* *p* *p* *>pp* h

Xiao

>pp *pp* h

Xiao

p *mp* *p* *ppp* *p* *ppp* *p* *< mp* *pp* *> ppp* h

4. Dancing Owl

Margaret Collins Stoop

Peaceful but eery ♩ = 72

Xiao

Percussion I

Percussion II

Violin I

Violin II

Viola

Cello

Low Crotales placed on edge of Snare Drum (snares off)
bow the edge of the crotales
let vibrate

3 Wood Blocks rubber mallets

pp < *mp*

mp

pp

mp

mp

mp

6

Perc. I

Perc. II

Vln. I

Vln. II

Vla.

Vc.

bow crotales

p

l.v.

place a set of keys on the snare drum head

pizz.

mp

pp

10

Perc. I

Wood Blocks

set mallets aside

bow crotale fast stroke

move crotale across drumhead choke

p *mf*

Perc. II

mp

Vln. I

mp

arco

mp *mf* *f*

Vln. II

moving away from the bridge

ord.

pp *p* *mp* *mf* *f*

Vla.

pp *pp* *p* *mp* *mf* *f*

Vc.

mp *p* *mp* *mf* *f*

17

Xiao

quarter-tone bend

lift-off

mf < >

Perc. I

set crotale and keys aside

snare on, take wire brushes

Perc. II

play with fingertips

mp

Vln. I

pizz. *mp*

Vln. II

mp

Vla.

mp

Vc.

pizz. *mp*

23

Xiao *mf* Wood Blocks fingertips *mf* < >

Perc. II *mp* pizz.

Vln. I *mp* pizz.

Vln. II *mp* pizz.

Vla. *mf* arco pizz.

Vc. *mp* *mp*

Detailed description: This block contains the musical score for measures 23 through 28. The score is written for six instruments: Xiao, Percussion II, Violin I, Violin II, Viola, and Violoncello. Measure 23 features a Xiao part with a dynamic of *mf* and a wood block part with a dynamic of *mf* and a 'fingertips' instruction. Percussion II has a dynamic of *mp* and a 'pizz.' instruction. Violin I and II have dynamics of *mp* and 'pizz.' instructions. Viola has a dynamic of *mf* and an 'arco' instruction. Violoncello has a dynamic of *mp*. Measures 24-28 continue these parts with various rhythmic patterns and dynamics.

29

Xiao

Perc. I Snare Drum wire brushes ord. *p* swipe circles in quarter note pulses

Perc. II

Vln. I

Vln. II *mp* pizz.

Vla. *mp* pizz.

Vc. 3

Detailed description: This block contains the musical score for measures 29 through 34. The score is written for six instruments: Xiao, Percussion I, Percussion II, Violin I, Violin II, Viola, and Violoncello. Measure 29 features a Xiao part with a dynamic of *mf* and a Percussion I part with a dynamic of *p* and a 'swipe circles in quarter note pulses' instruction. Percussion II has a dynamic of *mp*. Violin I and II have dynamics of *mp* and 'pizz.' instructions. Viola has a dynamic of *mp* and a 'pizz.' instruction. Violoncello has a dynamic of *mp* and a '3' instruction. Measures 30-34 continue these parts with various rhythmic patterns and dynamics.

35

Xiao *f* *mf*

Snare Drum *p*

Wood Blocks fingertips *mp* arco

Vln. I *p*

Vln. II pizz. *mp*

Vla. pizz. *mp*

Vc. *mp* *mp*

Detailed description: This system covers measures 35 to 38. The Xiao part begins with a triplet of eighth notes in measure 35, followed by a melodic line with a fermata in measure 36. Percussion includes a snare drum with a sixteenth-note pattern in measure 35 and wood blocks with a similar pattern in measure 36. Violins I play a short phrase in measure 36. Violins II, Viola, and Cello play pizzicato patterns in measures 37 and 38. Dynamics range from *f* to *mp*.

39

Xiao *p*

Perc. I *pp* take shaker

Vln. I pizz. *mp*

Vc. arco *p*

Detailed description: This system covers measures 39 to 42. The Xiao part has a melodic line with a fermata in measure 39 and a crescendo leading to a *p* dynamic in measure 41. Percussion I plays a sixteenth-note pattern with a crescendo to *pp* in measure 40, then continues with a shaker in measure 41. Violin I plays a short phrase in measure 39. Cello plays an arco note in measure 42. Dynamics range from *pp* to *p*.

44 Snare Drum *cresc.*

Perc. I

Shaker *mp* *cresc.* *mf* *f*

Perc. II *p* [take rubber mallet] Wood Blocks rubber mallet *mf* *f*

Vln. I *mp* *mf* *f*

Vln. II *mp* *mf* *f*

Vla. *p* *mp* *mf* *f*

Vc. *p* *mp* *mf* *f*

48 [to suspended cymbal, take coin]

Perc. I

Perc. II [set shaker aside] [take second rubber mallet]

Vln. I *mf*

Vln. II *mf*

Vla. *mf*

Vc. *mf*

54

Xiao *mp* *p* *mp* *pizz.*

Perc. I Wood Blocks rubber mallets *pp* l.v. *p*

Perc. II *p*

Vln. I *p* *pizz.*

Vln. II *p* *pizz.*

Vla. *p* *p*

Vc. *p* *pp* *mf*

Suspended Cymbal scrape with coin

Detailed description: This system of music covers measures 54 to 60. The Xiao part begins with a melodic line in G major, marked *mp*, *p*, and *mp*. Percussion I uses wood blocks with rubber mallets, with a suspended cymbal scrape with a coin in measures 55 and 59. Percussion II plays a rhythmic pattern. Violins I and II play a sustained note, with *pizz.* in measures 55 and 59. Viola and Violoncello play a sustained note, with *pp* and *mf* dynamics.

61

Xiao *p* *pp*

Perc. I *mp* l.v. *p* l.v. ord. *pp*

Perc. II *p*

Vln. I *p*

Vln. II *p*

Vla. *sfz p*

Vc. *p* *pp* *mp* *pp*

Detailed description: This system of music covers measures 61 to 67. The Xiao part continues with a melodic line, marked *p* and *pp*. Percussion I uses wood blocks with rubber mallets, with a suspended cymbal scrape with a coin in measures 61 and 65. Percussion II plays a rhythmic pattern. Violins I and II play a sustained note, with *p* dynamics. Viola and Violoncello play a sustained note, with *sfz p* and *pp* dynamics.

67

Xiao *mp* *mf*

Perc. I l.v. to snare, wire brushes Snare Drum *mf*

Perc. II take shaker Shaker *pp* to wood blocks

Vln. I arco *p*

Vln. II

Vla. *p* *pp*

Vc.

72

Xiao

Perc. I to suspended cymbal, take triangle beater *mf* Wood Blocks fingertips take rubber mallets

Perc. II *p*

Vln. I *pp* pizz. *p*

Vln. II pizz. *p*

Vla. pizz. *p*

Vc. *p*

77

Xiao *mf* *f* *tut* *k t*

Perc. I Suspended Cymbal *mf* *strike edge*

Perc. II Wood Blocks *mf* *rubber mallets*

Vln. I *pizz.* *mf*

Vln. II *pizz.* *mf*

Vla. *mf* *pizz.*

Vc. *mf*

83

Xiao *mf* *f* *+*

Perc. I *strike edge* *strike edge*

Perc. II

Vln. I

Vln. II

Vla.

Vc.

88

Xiao *f* *mp*

Perc. I Sus. Cymb. strike edge *mf* take wire brush

Perc. II Wood Blocks *mf*

Vln. I *mf* *mp*

Vln. II *mf*

Vla. *mf*

Vc. *mf*

93

Xiao *f* *mp* t k t k tut

Perc. I *mp* single hand roll wire brush

Perc. II *mp*

Vln. I *mp*

Vln. II *mp*

Vla. *mp*

Vc. *mf* *mp*

99

Xiao

Sus. Cymb. *mf*

Perc. I

Wood Blocks *mp*

Perc. II *mp*

Vln. I *mp*

Vln. II *mp*

Vla. *mp*

Vc. *mp*

104

Xiao

Perc. I

take triangle beater

strike edge *mf*

single hand roll wire brush *mf*

Perc. II

Vln. I *mf*

Vln. II *mf*

Vla. *mf*

Vc. *mf*

110

Xiao *mf* *f* + k t tut

Sus. Cymb.

Perc. I *mf* Wood Blocks

Perc. II *mf*

Vln. I *mf*

Vln. II *mf*

Vla. *mf*

Vc. *mf*

116

Xiao *mf*

Perc. I *mf*

Perc. II *mf*

Vln. I *mf*

Vln. II *mf*

Vla. *mf*

Vc. *mf*

121

Xiao

mf

Sus. Cymb.

f

take coin

scrape with coin

lv.

set mallets aside

fingertips

mp

Perc. I

Perc. II

p

mp

arco

Vln. I

mf

mf

arco

Vln. II

mf

mf

arco

Vla.

mf

mf

arco

Vc.

mf

mf

127

Xiao

place crotale on snare drum
snares off

place a set of keys on the snare drum head

take bow

Crotale

mf

take shaker

Perc. I

Perc. II

mp

Vln. I

mf

Vln. II

mf

pizz.

arco

Vla.

mf

mf

arco

Vc.

pizz.

mf

mf

mf

133

Xiao

Perc. I remove keys from drum head

Perc. II Shaker

Vln. I mp pp

Vln. II p

Vla. mp pp

Vc. p

Detailed description: This page of the score covers measures 133 to 138. The Xiao part is mostly silent, with some notes in measure 138. Percussion I has a box indicating 'remove keys from drum head' in measure 133. Percussion II plays a shaker with a steady eighth-note pattern from measure 133 to 137, ending with a *pp* dynamic in measure 138. Violin I plays a melodic line starting in measure 133 with a *mp* dynamic, reaching a *pp* dynamic by measure 137. Violin II and Viola play a similar melodic line, with Violin II starting in measure 133 and Viola starting in measure 134. Both reach a *p* dynamic by measure 138. The Cello part is mostly silent, with a few notes in measure 138.

139

Xiao f sempre al fine

Perc. I choke mp < mf

Perc. II to wood blocks Wood Blocks fingertips mp

Vln. I p mf

Vln. II mf

Vla. p mf

Vc. mf

Detailed description: This page of the score covers measures 139 to 142. The Xiao part begins in measure 139 with a *f* dynamic and 'sempre al fine' instruction. Percussion I has a 'choke' instruction in measure 139 and a dynamic change from *mp* to *mf* in measure 140. Percussion II has a box 'to wood blocks' in measure 139 and 'Wood Blocks fingertips' in measure 141, with a *mp* dynamic in measure 142. Violin I plays a melodic line starting in measure 139 with a *p* dynamic, reaching a *mf* dynamic by measure 140. Violin II and Viola play a similar melodic line, with Violin II starting in measure 139 and Viola starting in measure 140. Both reach a *mf* dynamic by measure 142. The Cello part plays a rhythmic pattern of eighth notes starting in measure 139, reaching a *mf* dynamic by measure 142.

144

Xiao *f* *tut* *tut*

Perc. I Wood Blocks fingertips *take rubber mallets* *rubber mallets*

Perc. II *mp* *mf*

Vln. I *mf*

Vln. II *sul tasto* *p*

Vla. *sul tasto* *p*

Vc. *sul tasto* *p*

149

Xiao

Perc. I *Crotale fast stroke* *mf* *l.v.* *to suspended cymbal, take coin*

Perc. II *pp*

Vln. I

Vln. II *ord.* *p* *mf* *sul tasto* *pp*

Vla. *ord.* *p* *mf* *sul tasto* *pp*

Vc. *ord.* *p* *mf* *sul tasto* *pp*

156

Xiao

Perc. I

Perc. II

Vln. I

Vln. II

Vla.

Vc.

f

Wood Blocks fingertips

take shaker

Shaker

*pp*³

p

mp sul tasto

pp

mp sul tasto

pp

mp sul tasto

pp

mp

161

Xiao

Perc. I

Perc. II

Vln. I

Vln. II

Vla.

Vc.

Suspended Cymbal scrape with coin

p

*pp*³

p

p

p

p

pp

5. Shore Birds

Margaret Collins Stoop

Cacophonous ♩ = 80

quarter-tone bend

Xiao

Percussion 1 Ocean Drum vertical tap with fingers *p*

Percussion 2 Bass Drum bamboo bundle sticks rim *p*

Violin I *p < mf mp*

Violin II *p < mf mp*

Viola *mp p mp p*

Cello *p < mp p mp p*

5

Xiao *mp mf* *tut*

Perc. 1 *p* swirl beads slowly *p*

Perc. 2 *p mf mp*

Vln. I *mp* col legno battuto jeté arco *mp*

Vln. II *p* col legno battuto jeté *mf mp*

Vla. *mp* arco *mp mf mp*

Vc. col legno battuto jeté *p mp mf mp mf*

9

Xiao *mf* *f* *bend up quarter-tone*

Perc. 1 *mf* *mp* *mp* *horizontal*

Perc. 2 *mf* *pp* *ord.* *p*

Vln. I *mf* *p* *mf* *mp*

Vln. II *col legno battuto* *jeté* *arco* *mf* *p* *mp*

Vla. *mf* *col legno battuto* *jeté* *p* *mp* *p* *mp*

Vc. *mf* *mp* *p* *mp* *p* *mp*

13

Xiao *mf* *crack*

Perc. 1 *mf*

Perc. 2 *pp* *mf* *take bundle sticks*

Vln. I *mp*

Vln. II *mf* *mp*

Vla. *col legno battuto* *jeté* *arco* *mp*

Vc. *col legno battuto* *jeté* *arco* *mp* *bend up quarter-tone*

18

Xiao *mf* *no trill* *lift-off*

Perc. 1 Ocean Drum *p* *mf* *p*

Perc. 2 Bass Drum bundle sticks *mp* *mf* take bass drum beaters

Vln. I *mp* *mf* *p* *mf* *mp*

Vln. II *mp* *mf* *p* *mf* *mp*

Vla. *p* *mp* *col legno battuto* *jeté* *arco* *mf*

Vc. *mf* *p* *mp*

23 *serenely*

Xiao *mf* *mf*

Perc. 1 quick swirl *mp* crack *mf* *p* *mp* *p*

Perc. 2 bass drum beaters *ppp* *mp*

Vln. I *p* *mf* *mp* *mf* *mp*

Vln. II *mf* *mp* *mp* *mp* *mp*

Vla. *mp* *mp* *mp* *mp* *mp*

Vc. *p* *mp* *mp*

29

Xiao *mf*

Perc. 1 Ocean Drum *p* *mf* *p* *mf*

Perc. 2 Bass Drum *pp* *p*

Vln. I *mp*

Vln. II *pp* *mf*

Vla. *p* *mf* *p*

Vc. *mp* *sfz* *p* *mf*

35

Xiao *mf* *f* $(\text{♩} = \text{♩})$

Perc. 1 *pp* *f* long snap sustain with rocking motion

Perc. 2 *p* *ff*

Vln. I *mp* *ff* loco

Vln. II *mp* *ff*

Vla. *mp* *ff*

Vc. *mp* *ff*

41

Xiao *mp* *mp*

Perc. 1 *mp* *mf* *p* cont. until it dies out

Perc. 2 Bass Drum *ppp* (more felt than heard) *pp*

Vln. I *mf* *mp*

Vln. II *mp*

Vla.

Vc. *mp*

46

Xiao *mp* *f* *accel.*

Perc. 1

Perc. 2 *p* *mp* *mf*

Vln. I *mp* *mf* *f*

Vln. II *p* *mp* *mf* *f*

Vla. *mp* *mf* *f*

Vc. *mp* *mf* *f*

Majestic ♩ = 92 fluttertongue

50

Xiao *f*

Perc. 1 Thunder Tube

Perc. 2 Bass Drum LH: cymbal beater RH: bass drum beater *mf* Sus. Cymbal *f* *mf* *mp* *p* both hands drum beaters

Vln. I *f*

Vln. II *f*

Vla. *f*

Vc. *f* *mp*

ord. non legato

56

Xiao *p* *mf* *non legato*

Perc. 1 *p* *mp* *p*

Perc. 2 *pp* *p*

Vln. I *p*

Vln. II *p*

Vla. *p*

Vc. *mp*

65

Xiao *mf* tut tut tut tut

Perc. 1 *mp* Thunder Tube let decay

Perc. 2 Sus. Cymbal LH: wire brush Bass Drum *p* Sus. Cymbal wire brush single hand roll *p* *mf*

Vln. I *p* *mp* *p*

Vln. II *p* *mp* *p*

Vla. *p* *mp*

Vc. *mp*

73

Xiao

Perc. 1 take bamboo bundle sticks *mp*

Perc. 2 *mp* *f* *p*

Vln. I *mp* *mf* *f*

Vln. II *mp* *mf* *f*

Vla. *mp* *f*

Vc. *mf* *f*

80

marcato

Xiao *mf*

Perc. 1 *let decay*

Perc. 2 *Sus. Cymbal single hand roll* *Bass Drum* *single hand roll*

Vln. I *p* *mp* *f* *mp*

Vln. II *p* *mp* *f* *mp*

Vla. *p* *f*

Vc. *p* *f*

to Ocean Drum horizontal

88

Xiao *tut*

Perc. 1 *Ocean Drum* *mf* *p* *mp*

Perc. 2 *f* *ff*

Vln. I *f* *mp*

Vln. II *f* *mf*

Vla. *col legno battuto* *jeté* *arco* *mf*

Vc. *mp* *f* *p* *mf*

96

Xiao: *mf* *f*

Perc. 1: *p*

Perc. 2: *p* *mf* *mp* *f*

Vln. I: *mp* *p* *mp* *mf* *f*

Vln. II: *mf* *p* *mp* *mf* *f*

Vla.: *mp* *f*

Vc.: *mf* *f*

103

Xiao: *f*

Perc. 1: *p* *mf* *mp* *mf*

Perc. 2: *p* *mf* *mp* *mf*

Vln. I: *mp* *mf*

Vln. II: *mp* *mf*

Vla.: *mp* *mf*

Vc.: *mp* *mf*

Bass Drum: LH: bundle sticks, RH: bass drum beater

111

Xiao

f *mf*

Ocean Drum

Perc. 1

mp *mf* *p*

Bass Drum

mf

both hands bundle sticks

Vln. I

mf *p*

Vln. II

mf

Vla.

mf

Vc.

mf

no trill

120

Xiao

fluttertongue *f* *mf* *mf*

tut *mf* *mf*

vertical

Perc. 1

mf *mf*

Perc. 2

Vln. I

mf *mp*

Vln. II

mf *mp*

Vla.

mf *mp*

Vc.

mf *mp*

non legato

marcato

126

Xiao *mf* Ocean Drum *mp*

Perc. 1 *mf* Bass Drum *mp* to Thunder Tube

Perc. 2 *mf* LH: bundle sticks RH: bass drum beater

Vln. I *mp* *p*

Vln. II *mp* *p*

Vla. *mp* *p*

Vc. *mp* *p*

132

Xiao *mp*

Perc. 1 *mf* Thunder Tube *f* stop vibration

Perc. 2 *f* Bass Drum *mp* Sus. Cymbal strike edge

Vln. I *mf* *mp*

Vln. II *f* *mf* *mp*

Vla. *mf* *mp*

Vc. *f* *mp*

139

Xiao *mp*

Perc. 1 Thunder Tube *f* ord.

Perc. 2 Sus. Cym. *mp* Bass Drum *f*

Vln. I *f* *mp*

Vln. II *f* *mp*

Vla. *f*

Vc. *f*

146

Xiao

Perc. 1 *p* to Ocean Drum horizontal

Perc. 2 *f*

Vln. I *mf* *p*

Vln. II *mf* *p*

Vla. *mp* *mf* *p*

Vc. *mp* *mf* *p*

152

Xiao

Perc. 1

Perc. 2

Vln. I

Vln. II

Vla.

Vc.

Ocean Drum

Sus. Cymbal

both hands cymbal beaters

f *mf* *f* *ff* *ff* *ff* *f*

159

(♩ = ♩) ♩ = 80

Xiao

Perc. 1

Perc. 2

Vln. I

Vln. II

Vla.

Vc.

mp *mf* *f* *ff*

167

Xiao

mp *mf* *tut* *tut*

Perc. 1 Ocean Drum *p* *mf* *p* *mf* *mp*

Perc. 2

Vln. I

Vln. II

Vla.

Vc.

175

Xiao *mp* *tut* *tut* *p*

Perc. 1 *a niente*

Perc. 2

Vln. I

Vln. II

Vla.

Vc.