Winds of Change attempts to build upon the recent tradition of monophonic compositional practice by combining techniques directed at setting a central musical line to maintain interest and create textural clarity. These techniques are primarily inspired by the works of George Crumb and Tan Dun. Winds of Change also includes found and built percussion instruments, which are employed to create a unique timbral sound environment. The combination of these two elements is intended to create a monophonic work that is both expressively clear and unique. Chapter I concerns the basic purpose of the thesis and accompanying document. Chapter II focuses on specific techniques and compositional processes used in Winds of Change.
WINDS OF CHANGE

by

Tyler Maxwell Miller

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CHAPTER I

INTRODUCTION

With the musical composition *Winds of Change* I have attempted to build upon the recent tradition of monophonic compositional practice through the combination of my personal stylistic understanding of monophonic texture with the implementation of found and built percussion instruments. Monophonic texture is herein defined as the setting of a central prominent line, combined with a background texture that serves to support that line.

There is precedent within recent monophonic practice toward experimentation with found percussion, non-traditional use of common percussion instruments, and percussion-like textures in non-percussion works. These techniques serve as an alternative means to set apart a central idea from the rest of a work. Chapter II references the works of George Crumb and Tan Dun regarding their monophonic techniques and serves to highlight the salient points of their influence on *Winds of Change*. 
CHAPTER II
COMPOSITIONAL TECHNIQUES

Winds of Change was constructed as a work characterized by the setting of a central line. Specifically, this setting was created through the use of compositional techniques designed to maintain interest, and create textural clarity. Examining the compositional practices of George Crumb and Tan Dun in light of their influence on Winds of Change will help elucidate the manner in which the central monophonic line of the work was set.

Robert Moevs describes a compelling aspect of George Crumb’s monophonic style as he demonstrates how Crumb creates a background texture in his works through the manipulation of timbral, spatial, registral, and temporal elements. Moevs describes how Crumb handles these aspects through the terms “repercussion” and “echo.”

If the sound is explosive with instant repeat, the effect is of a repercussion or ricochet; if quieter with somewhat more delayed repeat, it becomes an echo. This device determines the use of two pianos throughout and can extend to mallet percussion instruments. The echo device is pervasive in Crumb’s compositions, replacing polyphony, and sometimes is codified in their titles, as the Eleven Echoes of Autumn (Echoes I) 1965.¹

The technique is thus used to highlight the central monophonic line of a work. This is achieved through the creation or removal of timbral, registral, and temporal space.

between the monophonic center, and the background texture of a work. Further, Moevs points to the isolation or repetition of figures in the background texture itself as the means by which this space is created.

Heterogeneous borrowings, superpositions, sometimes rudimentary transcriptions [...] sounds, motives, phrases, passages, procedures, entire structures fail to break this persisting unity, but rather point up the sense of constriction produced by tightly circumscribed use of primary material, an assemblage of spooky effects and symbols chosen to evoke a particular mood, and a compositional method reduced essentially to their simple concatenation.¹

Stated another way, these individual gestures do not constitute the central monophonic line but rather work in tandem to frame and clarify, as oppose to form, a unified whole.

These techniques are important in regards to Winds of Change due to their perceived effectiveness in creating textural clarity and definition regarding the setting of a central monophonic line.

Similarly, Winds of Change is concerned from the outset with creating a sound world within which the central idea is placed. The sound world is presented first and is given the time to develop before the central line enters. The first two pages of the score show this sound world is constructed exclusively in the percussion lines. This supportive texture is created through the use of slate gongs and a bowed cymbal on timpano. This combination of two distinct sounds, which are rich in unique timbral characteristics, serves to define the sound world of the piece immediately (see Figure 1).²

¹ Ibid., 302
Figure 1. Beginning Sound Environment of *Winds of Change*.

After the sound world has been thoroughly exposed the central monophonic line enters in the cello at Rehearsal A. Simultaneous movement between the monophonic center, and the supportive background texture is purposefully avoided. The avoidance of concurrent movement between the parts is one of the defining characteristics of the way
the central idea is set in this instance. This is similar to the way Crumb employs the techniques of repercussion and echo, and the way textural clarity is created by avoidance of overlapping elements of the central monophonic line and supporting sound world.

Tan Dun’s monophonic compositional style shares the characteristic adherence to textural clarity apparent in Crumb’s works. Tan constructs elaborate sound environments within each of these works through innovative uses of percussion instruments. These sound environments are constructed primarily in regard to timbre and are designed to change through minute timbral alterations over the course of a work.

An example of Tan’s manipulation of timbre is apparent in the score to the film *Hero.* This film consists of a single story told three separate ways. While subtly different, these stories remain true to a single overarching plot line. Tan mirrors this narrative style timbrally. He attaches the timbre of a small wind chime to the character Flying Snow during the first version of the story at 0:18:25. A similar chime is used in conjunction with the metallic sounds of clashing swords, the sounds of these swords hitting water, and a heavy echo, in the second version of the story at 0:52:54. Yet another chime can be heard in the final version of the story at 1:13:03. Each version of the chime is characterized by a unique timbre. The subtle differences in timbre between these sections help to create an added sense of interest. They are not sufficiently different from one another as to prevent their contextualization as extensions of one another.

This technique is employed in *Winds of Change* through the shift from a bowed cymbal on timpano to a bowed nipple gong in the third percussion line. This effect is

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used to demarcate the three-section structure of the work. These sections are from the beginning to rehearsal letter D, rehearsal letter D to F, and rehearsal letter F through the end of the piece. The effect here is a shift between the brightly metallic sounds of the bowed cymbal in the first section, to the more resonant and clearly pitched sounds of the nipple gong. There is not a timbral development between these two elements, but a direction shift from one to the other. This reflects the influence of Tan’s use of chimes in Hero by moving between timbres that are sufficiently similar to maintain overall contextual continuity, while simultaneously maintaining interest and variability in an otherwise monophonic texture.

On a local level there is interplay between the central line and background texture in terms of the shape of certain gestures. This principle is employed to add continuity to the work. An example of this interplay can be seen at rehearsal letter B where the percussion figures mimic the upward motion seen slightly before and after in the cello line. The technique of shifting the basic contour of the central line between various instruments as well as between the central line and background texture is employed throughout the work (see Figure 2).

Similarly, the three-note arch that first appears with the opening cello line at rehearsal letter A (see Figure 3), appears frequently in the work and is moved between parts and between different textures.
Figure 2. Shifting Contour Between Central Line and Sound Environment.
One notable example of this figure occurs after rehearsal letter G. In this instance, the Cello line retains the function of the “central line,” while the other string parts mirror it’s three-note gestures. This can be seen in the first and second violins in measures 138–141, and again in the second violin in measures 146–149 (see Figure 4).

There is a tendency throughout the work to construct gestures by combining instruments from the percussion section and the string quintet (see Figure 5). These gestures serve to add continuity and interest to the background texture. They also form a bridge between the string quintet and the percussion section. This bridge is crucial in the realization of the work due to the tendency to conflate entire string quintet with the central line itself. This is due primarily to the shared timbre within the string quintet, and
the fact that the central line largely resides in the cello part throughout the work. Constructing gestures between the percussion and string lines as they function in the background texture serves to diminish the impact of this tendency on the overall effectiveness of the work.

Figure 4. Reappearance of Arch Figure at Rehearsal Letter G.
Another element, which adds continuity to the work, is the figuration of the bowed cymbal on timpano found in Percussion 3. This figure instructs the performer to begin bowing with the pedal set to a pitch in the center of the drums’ range. The performer then executes a gliss upwards, followed by a fall to a pitch below the center of
the instruments range and a second gliss upwards. This figure was specifically used for the timbre and tone quality produced by this specific series of glissandi.

![Figure 6. Bowed Cymbal on Timpano Figuration.](image)

**Conclusions**

The techniques discussed above are employed in *Winds of Change* with the unifying purpose of textural clarity. They are intended to create an evocative sound environment that supports the central line of the work. The piece is further defined by its use of built and found percussion. *Winds of Change* is best understood, then, as a combination of monophonic compositional technique, textural clarity, found and built percussion, and my personal aesthetic principles. Taken together these elements are intended to stretch a single central line throughout the work, while maintaining clarity and interest throughout.
REFERENCES


APPENDIX A

INSTRUMENT CONSTRUCTION

The instruments used in this work range from those found in common practice, such as the string quintet, to unique instruments constructed and found with the specific intent of being used in this piece.

The stones used in the original performance were made of granite, selected specifically for its sound quality and resonance. Likewise, they were chosen to be of similar size and spherical shape roughly that of a baseball. Any similarly sized granite stones should suffice in a performance of this work.

The gongs called for in the work were constructed from common roofing slate. Any similar slate roofing tiles should work in the construction of these gongs for a performance.

Three types of slate, quarried by the Camara Slate Products Company, and Hilltop Slate, Inc., were used to construct the gongs used in the original performance. These three types of slate are Camara Unfading Mottled Green and Purple Slate, Hilltop Slate Vermont Purple, and Hilltop Vermont Grey. Two tile thicknesses, 3/8 and 1/4 inch, were used. These specific thicknesses have the best combination of durability and resonance. The thinner tiles resonate better, while the thicker tiles possess a higher durability. The pitch of each piece of slate is difficult to judge by the apparent size or thickness of each tile due to the large degree of variability in the material.
The slate gongs are constructed by drilling holes in slate roofing tile. These holes allow for the slate tiles to be strung and hang freely. The holes should be equally spaced, between one and two inches, from the edges of the slate so the tile will hang evenly.

A 1/8-inch titanium drill bit was used in combination with a standard consumer grade Black and Decker drill to create these holes. There was some tendency for the slate to cleave, or flake, during drilling. Increasing drill speed while decreasing drill pressure proved successful in preventing the tiles from breaking during this process.

The slate gongs produce a range of different tones depending on where they are struck, the implement used to strike them, and the unique characteristics of each individual piece of slate. A soft (as opposed to hard) rock hammer is used in conjunction with medium-hard rubber mallets to strike the slate in this piece. This allows for a metallic and louder sound when struck with the rock hammer, and a softer, duller sound when struck with the rubber mallets.

The slate itself is quite durable, though it does tend to flake during performance. Further, a great deal of sound can be created without the use of a large amount of force. The gongs should be struck gently at the outset of rehearsal. Increased force can then be employed as familiarity with the material increases.
Slate gong construction pictures:

Figure A-1. Drill used during the construction of the slate gongs

Figure A-2. Slate gongs constructed from 3/8 inch roofing slate
Figure A-3. Slate gongs constructed from 1/4 inch roofing slate

Contact information for slate companies:

Camara Slate Products
“Quarriers and Fabricators of Natural Vermont Slate Products”
PO Box 8, 963 S. Main St.,
Fair Haven, VT 05743
Phone: 802-265-3200
www.camaraslate.com

Hilltop Slate Inc.
PO Box 201, Route 22A
Middle Granville, NY 12849
Phone: (518) 642-2270
www.hilltopslate.com
APPENDIX B

SCORE OF WINDS OF CHANGE

Duration: 14 min

Instrumentation

String Quintet and Percussion

Violin I
Violin II
Viola
Cello
Double Bass

3 Percussion Parts:
Perc. 1:
   Dumbek
   Water Tam
   Small Nipple Gong
   Spinning Plate Gong

Perc. 2:
   Djembe
   Medium Nipple Gong
   Large Nipple Gong

Perc. 3:
   Djembe
   Large Cymbal
   Timpani
   Bass or Cello Bow
   Sus. Cymbal
   Triangle Beater

Shared:
   Slate Gongs (At least three: low, med., high)
   Soft Rock Hammer
   2 Five-Gallon Buckets
   Large Water Container
   Stones
Percussion Notes:

Stones
The stones used in the original performance were made of granite, selected specifically for sound quality and resonance. Likewise, they were chosen to be of a similar size and spherical shape, roughly that of a baseball. Any similarly sized pairs of granite stones should suffice in a performance of this work.

Slate Gongs
1) **Types:** Winds of Change calls for 3 slate gongs. These can be constructed from standard 3/8 inch roofing slate. Please see separate instructions for detailed information on how to construct these gongs.

2) **Mallets and other beaters:** The piece calls for two primary types of beaters: med. Rubber mallets, and a soft rock hammer.
   a. Where a soft rock hammer is unavailable, an ordinary carpenters hammer will suffice, though it should be used in a more delicate fashion to avoid breaking the slate.

3) **Strike Gongs Over Water:** Whenever possible the slate gongs should be struck over a large container of water, such as a five-gallon construction bucket. This serves to increase the resonance of the gong.

4) **Slate Gongs in Water:** Two different methods of playing the slate gongs in water are employed in this piece.
   a. ≈ Instructs the performer to strike the gong while partially submerged in water. When this symbol is not employed and the performer is instructed to play a “water slate gong,” or “water tam,” the player should strike the instrument before lower it into the water.
Winds of Change

Unmeasured, Ethereal, Random. Like fishing boat buoys gently clanging together while swaying in ocean breeze.

*Sm. Slate Gong: Strike with med. hard rubber mallet

*Med. Slate Gong: Strike with rock hammer

Bowed Large Cymbal on Timpano: Let Ring

pedal gliss.

*Cleavage of Rock: Slate is a type of rock formed through the depositing of layers of material, which are then compressed under great pressures. Do not be alarmed if there is some cleavage, or shearing off of some of these layers, during performance. This is usually limited to small flakes of stone. If this begins to impact the integrity of the slate to a large degree, reduce the strength used in hitting the gongs.
Winds Of Change

Vln. I

Vln. II

Vla.

Vc.

D.B.

Perc. 1

Perc. 2

Perc. 3

*Slate Gong:

Bowed Large Cymbal on Timpano:

Let Ring

pedal gliss.

pp

p

p

Ethereal, Sosperando (\(\frac{\dot{}}{\text{e}} = 66\))

Winds Of Change

Perc. Continues With Metric Freedom

Vln. I

\[\text{pp}\]

Vln. II

Vla.

Melody, sosperando

Make this note subdued, weaker

Vc.

\[p \leftarrow \text{pp} \quad p \leftarrow \text{pp} \]

D.B.

Perc. Continues With Metric Freedom

Perc. 1

Stones:

Perc. 2

\[\text{pp}\]

Perc. 3

Let Ring

\[p \leftarrow \text{pp}\]

pedal gliss.
Winds Of Change

Vln. I

Vln. II

Vla.

Vc.

D.B.

Perc. 1

Perc. 2

Perc. 3

Medium Nipple Gong: Tap gently with drum stick

Scrape with Sus. Cym.: triangle beater
Winds Of Change

Vln. I

Vln. II

Vla.

Vc.

D.B.

Perc. 1

Perc. 2

Perc. 3

pedal gliss.

Slate Gong:

Bowed Large Cymbal on Timpano:

Let Ring
Winds Of Change

Vln. I

Vln. II

Vla.

Vc.

D.B.

Perc. 1

Perc. 2

Perc. 3

33

pp

p
Winds Of Change

B

Unmeasured, Maintain Similar Tempo

Vln. I

Vln. II

Vla.

Vc.

D.B.

Perc. 1

Water Tam:

Med. Slate Gong:

Perc. 2

*(Strike out of water)

Perc. 3

Large nipple gong: Scrape with triangle beater

Water Tam:

Unmeasured, Maintain Similar Tempo

38
Winds Of Change

Ethereal, Sosperando \( \uparrow = 66 \)

- Re-strike as needed to maintain resonance

Bowed Large Cymbal on Timpano:

Strike with med. hard rubber mallet
Winds Of Change

Vln. I

Vln. II

Vla.

Vc.

D.B.

60

Water Tam:

Med. Slate Gong:

Perc. 1

Perc. 2

Perc. 3

60

(Stike tam, then dip into water)

Stike tam, then dip into water)

Lg. Slate Gong:

p
Winds Of Change

Water Tam: >

Re-strike as needed to maintain resonance
Winds Of Change

Moderato \( \boxed{\text{q = 78}} \)

Vln. I

Vln. II

Vla.

Vc.

D.B.

Perc. 1

Perc. 2

Perc. 3

Djembe:

Dumbek:
Winds Of Change
Winds Of Change

Vln. I

Vln. II

Vla.

Vc.

D.B.

Perc. 1

Perc. 2

Perc. 3

76

33
Winds Of Change
Winds Of Change
Winds Of Change
Winds Of Change

Vln. I

Vln. II

Vla.

Vc.

D.B.

Perc. 1

Perc. 2

Perc. 3

38
Winds Of Change

Vln. I

Vln. II

Vla.

Vc.

D.B.

Perc. 1

Perc. 2

Perc. 3

\[ p \]
Winds Of Change
Winds Of Change

F Slightly Faster (\( \frac{q}{q} = 88 \))

(Melody)
Winds Of Change

Vln. I

Vln. II

Vla.

Vc.

D.B.

Perc. 1

Perc. 2

Perc. 3

Slow seasick bends

Slow seasick bends

Slow seasick bends

mp

pp

pp

arco

Winds Of Change

43
Winds Of Change
Winds Of Change

Vln. I

Vln. II

Vla.

Vc.

D.B.

Perc. 1

Perc. 2

Perc. 3

Lg. Slate Gong:

Bowed Large Cymbal on Timpano:
Winds Of Change
Winds Of Change
Winds Of Change

Vln. I

Vln. II

Vla.

Vc.

D.B.

Perc. 1

Perc. 2

Perc. 3
Winds Of Change

Moderato \( \left\{ q = 108 \right\} \)

Vln. I

Vln. II

Vla.

Vc.

D.B.

Perc. 1

Perc. 2

Perc. 3

Water Tam: Re-strike as needed to maintain resonance

Bowed large (metal) gong on Timpano:

\[ 136 \]
Winds Of Change

Vln. I

Vln. II

Vla.

Vc.

D.B.

Perc. 1

Perc. 2

Perc. 3
Winds Of Change

Vln. I

Vln. II

Vla.

Vc.

D.B.

Perc. 1

Perc. 2

Perc. 3

51
Winds Of Change

Make this note subdued, weaker

Slate Gong: Strike with med. hard rubber mallet
Winds Of Change
Winds Of Change

Unmeasured, Ethereal, Random. Like fishing boat buoys gently clanging together while swaying in ocean breeze.

*Slate Gong: Strike with rock hammer

*Slate Gong: Strike with med. hard rubber mallet

pedal gliss.

Let Ring