

December 2016

George Crumb's Personal Response to the Golden Age of Social Activism: Night of the Four Moons, Black Angels, and Vox Balaenae

Yi Ling Tsai
University of Nevada, Las Vegas

Follow this and additional works at: <https://digitalscholarship.unlv.edu/thesesdissertations>



Part of the [Music Commons](#)

Repository Citation

Tsai, Yi Ling, "George Crumb's Personal Response to the Golden Age of Social Activism: Night of the Four Moons, Black Angels, and Vox Balaenae" (2016). *UNLV Theses, Dissertations, Professional Papers, and Capstones*. 2909.
<http://dx.doi.org/10.34917/10083222>

This Dissertation is protected by copyright and/or related rights. It has been brought to you by Digital Scholarship@UNLV with permission from the rights-holder(s). You are free to use this Dissertation in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/or on the work itself.

This Dissertation has been accepted for inclusion in UNLV Theses, Dissertations, Professional Papers, and Capstones by an authorized administrator of Digital Scholarship@UNLV. For more information, please contact digitalscholarship@unlv.edu.

GEORGE CRUMB'S PERSONAL RESPONSE TO THE GOLDEN AGE OF SOCIAL
ACTIVISM: *NIGHT OF THE FOUR MOONS*, *BLACK ANGELS*, AND *VOX BALAENAE*

By

Yi Ling Tsai

Bachelor of Music – Music Performance
Columbus State University
2006

Master of Arts – Music Performance
New York University
2008

A doctoral document submitted in partial fulfillment
of the requirements for the

Doctor of Musical Arts

School of Music
College of Fine Arts
The Graduate College

University of Nevada, Las Vegas
December 2016



Doctoral Document Approval

The Graduate College
The University of Nevada, Las Vegas

September 26, 2016

This doctoral document prepared by

Yi Ling Tsai

entitled

GEORGE CRUMB'S PERSONAL RESPONSE TO THE GOLDEN AGE OF SOCIAL
ACTIVISM: NIGHT OF THE FOUR MOONS, BLACK ANGELS, AND VOX
BALAENAE

is approved in partial fulfillment of the requirements for the degree of

Doctor of Musical Arts
School of Music

Jennifer Grim, D.M.A.
Examination Committee Chair

Kathryn Hausbeck Korgan, Ph.D.
Graduate College Interim Dean

Cheryl Taranto, Ph.D.
Examination Committee Member

William Bernatis, D.M.A.
Examination Committee Member

Timothy Hoft, D.M.A.
Examination Committee Member

Margot Mink Colbert, B.S.
Graduate College Faculty Representative

ABSTRACT

GEORGE CRUMB'S PERSONAL RESPONSE TO THE GOLDEN AGE OF SOCIAL ACTIVISM: *NIGHT OF THE FOUR MOONS*, *BLACK ANGELS*, AND *VOX BALAENAE*

By

Yi Ling Tsai

Dr. Jennifer Grim, Advisory Committee Chair
Associate Professor of Music
University of Nevada, Las Vegas

American composer George Crumb (b. 1929) started to garner public attention in the 1960s with a new kind of message and sound. Crumb's approach to composition has been to exploit music as a form of communication to convey the metaphysical and the psychological through various mediums. With the social movements in the 1960s, many Americans were inspired to fight for change; as for Crumb, composing became his platform for social commentary. His approach to social activism was to express his ideas through musical dialogues and symbolism. The subtle quotations that he often borrowed from other composers are typically short in length, but their roles are significant in that they convey a deeper meaning and provide a broader context to his piece. This document aims to identify the motivations and the historical connections behind the symbolism in Crumb's pivotal chamber works, as well as discuss his musical contributions to social activism and his intended effect. Indeed the impact may have extended beyond the average listening audience to influence future generation of composers as well. I will explore such composers who followed Crumb's lead and utilized music as a platform for social activism. Three of Crumb's chamber works composed between 1969 and 1971 will be examined:

- *Night of the Four Moons* (1969) reflects Crumb's ambivalent feelings about the Apollo 11 mission to the moon in 1969. The texts were extracted from four of Federico García Lorca's poems. Understanding the four original poems by Lorca provides a more complete context by which to interpret the metaphors Crumb used.
- *Black Angels* (1970) demonstrates the state of anger and darkness born by the Vietnam War. Crumb used numerology as a cohesive element, specifically the prime numbers 7 and 13 to represent the essential polarity – God versus Devil. The numerological symbolism is variously expressed in the musical structure, including phrase length, groupings of notes, time brackets, numbers of changes, and more. He also alluded to tonal music to represent the harmonious and God, and atonal to represent the current chaotic state.
- *Vox Balaenae* (1971) is an ecological piece, which Crumb utilized the flute to suggest the sounds of a whale after being inspired by a recording of a singing humpback whale. This work provided a distinct musical voice to the world's first anti-whaling campaign launched by the environmental non-profit organization, Greenpeace, in 1975, which eventually ignited a global "Save the Whales" movement. Additionally, the adaptation of Strauss's *Also sprach Zarathustra* theme contains metaphors about the evolution of mankind.

This document aims to contribute to the available knowledge concerning the interpretation of Crumb's compositions by providing new insights to help researchers and performers attain a deeper understanding of Crumb's chamber works that involve social change movements between 1969 and 1971.

ACKNOWLEDGEMENTS

This dream would not have been possible without a lifetime of encouragements from my parents. Thank you, Mom and Dad, for allowing me to chase after my passion. I am also deeply grateful to those who never stopped believing in me on this journey.

My sincere gratitude goes to my Advisory Committee Chair, Dr. Jennifer Grim, as well as the rest of my Advisory Committee Members, Dr. Cheryl Taranto, Dr. William Bernatis, Dr. Timothy Hoft, and Professor Margot Mink Colbert, for all of your guidance during the last three years.

To my husband and my better half, Steven Sherman, I am forever indebted to you for your support and sacrifice every step of the way. Thank you for continuing to inspire and motivate me every day. I love you.

DEDICATION

For my son, Tyler

*In this unpredictable world,
my wish for you is to
live life with curiosity, integrity, and humility,
and happiness and success will follow.*

TABLE OF CONTENTS

ABSTRACT	iii
ACKNOWLEDGEMENTS	v
DEDICATION	vi
LIST OF FIGURES	viii
CHAPTER 1: INTRODUCTION	1
1.1 George Crumb: A Brief Biography	2
1.2 Music Activism in the 1960s	4
CHAPTER 2: NIGHT OF THE FOUR MOONS (1969)	7
2.1 Understanding Crumb through Lorca	8
2.2 The Forgotten Opposition to Project Apollo	10
2.3 The Lorca Texts	11
2.4 I. “The moon is dead, dead...”	12
2.5 II. “When the moon rises...”	14
2.6 III. “Another obscure Adam dreams...”	18
2.7 IV. “Run away moon, moon, moon!...”	20
CHAPTER 3: BLACK ANGELS (1970)	24
3.1 A Brief Overview of the Vietnam War and the Anti-War Movement	27
3.2 I. “Departure”	29
3.3 II. “Absence”	30
3.4 III. “Return”	31
CHAPTER 4: VOX BALAENAE (1971)	32
4.1 Environmentalism in the 1960s	33
4.2 Anti-Whaling Activism	34
4.3 I. “Vocalise (...for the beginning of time)”	36
4.4 II. “Variations on Sea-Time”	47
4.5 III. “Sea-Nocturne (...for the end of time)”	51
CHAPTER 5: NEXT GENERATION OF COMPOSERS INSPIRED BY SOCIAL ACTIVISM.....	53
CHAPTER 6: CONCLUSION	60
APPENDIX: ENGLISH TRANSLATION OF LORCA’S POEMS.....	63
BIBLIOGRAPHY	67
CURRICULUM VITAE	73

LIST OF FIGRUES

Figure 1: George Crumb, <i>Night of the Four Moons</i> , I. “The moon is dead, dead...,” page 5, fourth system	14
Figure 2: George Crumb, <i>Night of the Four Moons</i> , II. “When the moon rises...,” page 6, first system	17
Figure 3: George Crumb, <i>Night of the Four Moons</i> , II. “When the moon rises...,” page 6, second system	17
Figure 4: George Crumb, <i>Night of the Four Moons</i> , II. “When the moon rises...,” page 6, third system	17
Figure 5: George Crumb, <i>Night of the Four Moons</i> , II. “When the moon rises...,” page 6, third system	18
Figure 6: George Crumb, <i>Black Angels</i> , program	26
Figure 7: George Crumb, <i>Vox Balaenae</i> , I. “Vocalise (...for the beginning of time),” page 6, first system.....	37
Figure 8: George Crumb, <i>Vox Balaenae</i> , I. “Vocalise (...for the beginning of time),” page 6, first system	37
Figure 9: George Crumb, <i>Vox Balaenae</i> , I. “Vocalise (...for the beginning of time),” page 7, second system	37
Figure 10a: George Crumb, <i>Vox Balaenae</i> , I. “Vocalise (...for the beginning of time),” page 7, first system	41
Figure 10b: George Crumb, <i>Vox Balaenae</i> , I. “Vocalise (...for the beginning of time),” page 7, second system	41
Figure 11: Richard Strauss, <i>Also sprach Zarathustra</i> , mm. 1-8	41
Figure 12: George Crumb, <i>Vox Balaenae</i> , I. “Vocalise (...for the beginning of time),” page 7, first system	42
Figure 13a: Original notes from the opening ordinary flute motive of Part III	42
Figure 13b: F# pentatonic scale and C pentatonic scale	43
Figure 13c: The octatonic scale formed by two pentatonic scales	43

Figure 14: George Crumb, <i>Vox Balaenae</i> , I. “Vocalise (...for the beginning of time),” page 7, third system	44
Figure 15: Original colored analysis of “Vocalise” to illustrate the alternation of different timbral groups	45-46
Figure 16: George Crumb, <i>Vox Balaenae</i> , II. “Variations on Sea-Time,” Cenozoic [Var. V], page 12, third system	51

CHAPTER 1

INTRODUCTION

In the words of the American composer, George Crumb (b. 1929), “Music is tangible, almost palpable, and yet unreal, illusive. Music is analyzable only on the most mechanistic level; the important elements – the spiritual impulse, the psychological curve, the metaphysical implications – are understandable only in terms of the music itself.”¹ He also believed that “music must have been the primeval cell from which language, science, and religion originated.”² Crumb’s stance on music is reflected in his compositions, as he utilized music as a form of communication on subjects such as life, love, and social change in the mid 20th century.

The Civil Rights movement in the 1960s inspired many Americans to fight for change using methods of direct action, such as protest marches, rallies, and nonviolent civil disobedience tactics. This encouraged later social movements, including the Anti-Vietnam War and the Environmental movements. The movements during this period motivated many to communicate their displeasure concerning the direction the society was going, and Crumb was no exception. Crumb’s approach to social activism was to express social commentary through musical dialogues and symbolism. The subtle quotations that he often borrowed from other composers are typically short in length, but their roles are significant in meaning, and provide a broader context to his pieces.

Crumb began to garner public attention in the 1960s with his unique musical sonorities along with musical social commentaries. His distinctive sound world is encompassed by the inventive use of instrumental and vocal orchestration, juxtaposition of musical styles, as well as

¹ Suzanne Mac Lean, “George Crumb, American Composer and Visionary,” *George Crumb: Profile of a Composer*, compiled and edited by Don Gillespie (New York: C. F. Peters, 1986), 20.

² Ibid.

the integration of programmatic and theatrical elements to visually enhance the audience's perception of his works. Although Crumb relied on a variety of approaches to express his personal visions, when incorporating text he favored excerpts from Federico García Lorca (1898-1936)'s poetry, as he was fond of Lorca's style of using various symbols to convey metaphors.

This document aims to identify the motivations and the historical connections behind the symbolism in three of Crumb's chamber works between 1969 and 1971 – *Night of the Four Moons* (1969), *Black Angels* (1970), and *Vox Balaenae* (1971). The symbolism in each work reveals nuances of Crumb's ideology in connection to the social change movements at the time. Additionally, they are representatives of Crumb's innovative compositional style.

1.1 George Crumb: A Brief Biography

George Henry Crumb, Jr. was born on October 24, 1929 to a musical family in Charleston, West Virginia. George Crumb's father, George Henry Crumb, Sr. was a professional clarinetist with the Charleston Symphony Orchestra (now West Virginia Symphony Orchestra), and music copyist, arranger and occasional conductor of the pit orchestra for silent films. George Crumb's mother, Vivian Crumb, was a devoted professional cellist with the Charleston Symphony Orchestra for 25 years. Crumb received his first clarinet lessons on a small E-flat clarinet from his father when he was seven years old. Two years later he began piano lessons with Lucille Blossom in Charleston.³

One of Crumb's most significant influences of his early musical training was the family tradition of chamber music playing in their home. Crumb often played flute and clarinet duos with his younger brother, William Reed Crumb, and clarinet duos with his father. As a pianist, he played the Beethoven and Brahms clarinet trios with his parents. Crumb's father also made

³ David Cohen, "Biography," *George Crumb: A Bio-Biography* (Westport, CT: Greenwood Press, 2002), 1.

arrangements of works by Mozart and Haydn for the entire family.⁴ In addition to playing music, Crumb's father exposed him to scores and encouraged Crumb's early efforts in compositions, as well as provided useful suggestions regarding proper notation and idiomatic writing for instruments.⁵ He started composing at the age of ten, resembling the style of Mozart in his early pieces. His compositional styles evolved by observing past composers' writings, including Beethoven, Brahms, Chopin, Debussy, and Bartók.⁶

Crumb obtained a Bachelor of Music degree in both piano and composition from Mason College in Charleston, West Virginia (now University of Charleston) in 1950, after just three years of study. In 1951, Crumb moved to Champaign-Urbana with his wife, Elizabeth May Brown, for the continuation of his musical studies at the University of Illinois, where he also began studying the viola. It was during these years Crumb developed an obsessive interest in foreign languages. Although he was unable to speak any foreign tongue with fluency, he self-taught and acquired reading knowledge in Spanish, German, French, and Italian.⁷

After the completion of his Master of Music degree in 1953, Crumb moved to Ann Arbor to begin his D.M.A. in composition at the University of Michigan with Ross Lee Finney, who he considered to have been his principal teacher in composition.⁸ Crumb admitted that his personal style did not evolve until 1962 with his *Five Pieces for Piano*. He is grateful for the sense of discipline that Finney instilled in him, including his beautiful score writing.⁹ Although Finney focused mainly on early twentieth composers such as Bartók, Schoenberg, Webern, and Stravinsky in his analysis seminars, students were encouraged to form their own stylistic

⁴ David Cope, "Biography," *George Crumb: Profile of a Composer*, compiled and edited by Don Gillespie (New York: Edition Peters, 1986), 8.

⁵ Ibid.

⁶ Cohen, 2.

⁷ Cope, 10-11.

⁸ "Interview: Crumb/Shuffett," *George Crumb: Profile of a Composer*, 34.

⁹ Cope, 11.

viewpoints.¹⁰ Crumb was introduced to the poetry of Federico García Lorca through a fellow student, Edward Chudacoff, who incorporated a text of Lorca's "Casida of the Boy Wounded by the Water" in his composition. Crumb recognized the similarity between his and Lorca's artistic expressions, and began adapting Lorca's poems to his own works to Lorca's poems.¹¹

After earning his doctorate, Crumb began teaching theory and analysis at Hollins College in Virginia from 1958 to 1959, followed by the University of Colorado at Boulder from 1959 to 1964, before landing a position at the University of Pennsylvania in 1965, where he remained and retired from after more than thirty years of teaching. Crumb was the recipient of numerous awards, including a National Institute of Arts and Letters Award (1967), a Pulitzer Prize in Music (1968) for his *Echoes of Time and the River*, as well as six honorary Doctorates from various institutions.¹² Crumb now resides in Pennsylvania, in the same house where he and his wife of 67 years raised their three children – Elizabeth Ann Crumb (b. 1950), David Reed Crumb (b. 1962), and Peter Stanley Crumb (b. 1965). The official publisher of Crumb's music is C.F. Peters; in addition, Crumb is supervising an ongoing series of "Complete Crumb Edition" recordings, which are issued by Bridge Records.¹³

1.2 Music Activism in the 1960s

The 1960s were the golden age of social activism. Citizens during this time realized the importance of making their voices heard in order to see their desired changes, and turned to many direct and indirect means to accomplish this. Music naturally lends itself as a medium for

¹⁰ "Interview: Crumb/Shuffett," 34.

¹¹ Cohen, 4.

¹² Cope, 10-15.

¹³ "About," *The Official George Crumb Website*. Accessed June 10, 2016. <http://www.georgecrumb.net/about/>

free expression; as such, during this period musicians representing a variety of different musical genres protested through song.

A leading musical figure was Pete Seeger (1919-2014), who composed and performed in support of a variety of social causes ranging from the labor movement of the 1940s and 1950s to the civil rights, anti-Vietnam War and environmental movements of the 1960s and 1970s.¹⁴ Seeger noted, “My job is to show folks there’s a lot of good music in this world, and if used right it may help to save the planet,”¹⁵ One of his protest songs, “We Shall Overcome,” which he adapted from old spirituals, became an anthem of the African-American Civil Rights movement; today, all of the song’s royalties go to the “We Shall Overcome” Fund, which provides grants to African-American organizations in the South.¹⁶ Seeger’s role in political activism and the American folk music revival in the ‘60s earned him several awards and recognitions, including a lifetime achievement Grammy Award, the National Medal of Arts, as well as Cuba’s highest cultural award, the Order of Félix Varela, for his “humanistic and artistic work in defense of the environment and against racism.”¹⁷

Seeger was a mentor and an inspiration to younger topical singers in the ‘50s and ‘60s; among them is the winner of the 2016 Nobel Prize in Literature, Bob Dylan (b. 1941).¹⁸ According to the New York Times, Dylan is the first musician to win the literary world’s highest honor, which expands the definition of “literature” and sets off a question whether song lyrics

¹⁴ Jon Pareles, “Pete Seeger, Champion of Folk Music and Social Change, Dies at 94,” *The New York Times*, January 28, 2014. Accessed October 13, 2016. http://www.nytimes.com/2014/01/29/arts/music/pete-seeger-songwriter-and-champion-of-folk-music-dies-at-94.html?_r=0

¹⁵ Ibid.

¹⁶ Ibid.

¹⁷ Ibid.

¹⁸ Ben Sisario, Alexandra Alter, and Sewell Chan, “Bob Dylan Wins Nobel Prize, Redefining Boundaries of Literature,” *The New York Times*, October 13, 2016. Accessed October 13, 2016, <http://www.nytimes.com/2016/10/14/arts/music/bob-dylan-nobel-prize-literature.html>

contribute as much artistically as novels and poetry.¹⁹ His lyrics in “Blowin’ in the Wind” asks rhetorical questions about peace, war, and freedom; and in “The Times They Are a-Changin’,” Dylan expressed his views on the perceived social injustices, and the government’s resistance to the rapid social changes that were taking place at the time. Both of these songs from the ‘60s were voted “500 Greatest Songs of All Time” by the *Rolling Stone* magazine.

Seeger’s folk music revival in the ‘60s charmed classical piano prodigy, Judy Collins (b. 1939), who broke away from her classical roots to pursue her passion for folk music.²⁰ In the 1960s, Collins “evoked both the idealism and steely determination of a generation united against social and environmental injustices.”²¹ For over five decades, the award-winning singer-songwriter has dedicated her artistry to social activism through “her imaginative interpretations of traditional and contemporary folk standards and her own poetically poignant original compositions.”²² Additionally, she has produced interpretative works of social poets from the ‘60s, such as Bob Dylan, Phil Ochs, and Tom Paxton.²³

Just as other musicians involved in the popular culture of music activism of the ‘60s and ‘70s, George Crumb likewise expressed his thoughts concerning the crucial social issues of the time in three chamber works composed between 1969 and 1971, which will be the focus of discussion in this document. These compositions are unique in that they not only reveal Crumb’s ideology through the innovative use of musical symbolism, but also provide rare examples of music activism in the classical contemporary repertoire. Although the popular musical genres of the time were quite different from Crumb’s compositions, the underlying messages they conveyed were completely aligned.

¹⁹ Ibid.

²⁰ “Biography,” *Judy Collins Website*. Accessed October 26, 2016. <http://www.judycollins.com/biography/>

²¹ Ibid.

²² Ibid.

²³ Ibid.

CHAPTER 2

NIGHT OF THE FOUR MOONS (1969)

George Crumb composed *Night of the Four Moons* in July of 1969 during the Apollo 11 mission. It is scored for alto or mezzo-soprano, alto flute (doubling piccolo), banjo, electric cello, and percussion (one player). The piece includes a wide range of percussion instruments: Tibetan prayer stones, Japanese Kabuki blocks, alto African thumb piano (mbira), Chinese temple gong, vibraphone, crotales, tambourine, bongo, drums, suspended cymbal and tamtam. Notably, the finger cymbals, castanets, glockenspiel, and tamtam are doubled by the singer. Additionally, each of the performers, except for the cellist, strikes a single crotales as they exit the stage one by one at the end of the work. Its commissioners, the Philadelphia Chamber Players, gave the premier performance with mezzo-soprano, Anna May Courtney, on March 3, 1970 in Springfield, Pennsylvania.²⁴

According to Crumb, *Night of the Four Moons* was “an artistic response to an external event.”²⁵ Crumb commemorated the historic event with reflective texts and evocative music to express his ambivalence towards the Apollo 11 mission. While the nation celebrated a monumental accomplishment by mankind, the composer implied his opposition to the intrusion on our nearest celestial neighbor. Instead of publicly protesting this event, he wittingly conveyed his ideas through musical dialogues and texts, which were extracted from four moon-related poems by Federico García Lorca.

²⁴ George Crumb, “Annotated Chronological List of Works,” *George Crumb: Profile of a Composer*, 107.

²⁵ Ibid.

2.1 Understanding Crumb through Lorca

The unique persona of Crumb's musical language is a reflection of the composers and writers he admired. The essence in his music is often described as mystical; Crumb believes that this kind of spirituality is a product of appreciation for artists such as Claude Debussy, Gustav Mahler, Béla Bartók, Charles Ives, and notably Federico García Lorca.²⁶

Born in Granada, Lorca is considered to be the most influential Spanish poet of the twentieth century.²⁷ He belonged to the Spanish Generation of Twenty-Seven during the Silver Age of Spanish Literature, which in general refers to authors born between 1892 and 1902.²⁸ Although there was not a recognized literary movement with the Generation of Twenty-Seven, the Spanish authors of the time commonly emphasized balance – between the intellectual and the sentimental; the pure aesthetic and the human authenticity; the art for minorities and the art for the majorities; the Universal and the Spanish; a romantic or a classic understanding of art; and the traditional and renovation. Instead of rejecting previous movements and styles, they embraced tradition with the avant-garde.²⁹

The principal contents of Lorca's poetry reflect his obsessions, aesthetics, and the traditional aspects of the Andalusian culture. His poetry possesses a surrealist charm, yet the poems contain poetic logic and coherent thematic developments.³⁰ The metaphor is Lorca's most frequently used literary form; many of his symbols represent death, although the exact

²⁶ George Crumb, interview by Anna Sale, "A Conversation with George Crumb," *Outlook*, West Virginia Public Broadcasting, December 20, 2007, accessed on November 11, 2015, <http://youtu.be/5xo8SHjTxc>.

²⁷ "Works for Federico García Lorca," *Spanish Books*. Accessed June 27, 2016.
<http://www.classicspanishbooks.com/20th-cent-garcia-lorca-works.html>

²⁸ "Silver Age of the Spanish Literature," *Spanish Books*. Accessed June 27, 2016.
<http://www.classicspanishbooks.com/20th-cent-silver-age.html>

²⁹ "The Generation of '27 Overview," *Spanish Books*. Accessed June 27, 2016.
<http://www.classicspanishbooks.com/20th-cent-generation-of-27.html>

³⁰ Carl Cobb, Federico García Lorca (New York: Twayne Publishers, 1967), 43.

meaning can change based on the context. One of Lorca's most common symbols is the moon. While it often symbolizes death, it can also represent eroticism, fertility, sterility, or beauty.³¹

The stylistic parallels between Crumb and Lorca are evident in how they integrate the effects of their images into a larger form and meaning. Lorca's poetic patterns varied from simple, repetitive, and song-like to more vague and tenuous. Similarly, Crumb's musical structures demonstrate a comparable variety of patterning from simple, repetitive forms to the more surrealistic and spontaneous. In terms of their organization, both Lorca's poetry and Crumb's music balance subtlety with long-range form and patterning.³² Crumb noted that everything in present time is an evolution of the past. Like Lorca, he acknowledged this principle by blending traditional forms and idiomatic melodies while moving the music forward with innovative sounds, as well as responding to social changes.

Furthermore, maintaining balance is another characteristic Crumb shares with Lorca. Crumb expressed the importance of keeping technique and lyricism balanced in a composition,

“[Technique and lyricism] have to be in balance. It's a combination of the two things, and neither would work without the other. Sometimes you find an example of a composer, who is too heavy into the technical side, and the music can sound academic; or if there is shortage on the technical side, you might begin to think of an untrained composer that is not able to get the ideas to speak.”³³

Crumb added, “Maybe everything in life is a question of balance, between two opposing things.”³⁴

³¹ “Works for Federico Garcia Lorca.”

³² John MacKay, “An Analysis of Musical Time in Selected Works by George Crumb” (MA thesis, McGill University, 1979), p. 20-21.

³³ Crumb, interview by Anna Sale, “A Conversation with George Crumb.”

³⁴ Ibid.

2.2 The Forgotten Opposition to Project Apollo

The Apollo Project marked the third manned spaceflight program by the National Aeronautics and Space Administration (NASA) for the United States. It was first conceived in the early 1960s during Dwight D. Eisenhower's administration, and carried out during John F. Kennedy's presidency. In May 1961, President Kennedy proposed a national goal of landing a man on the moon and returning him safely to earth by the end of the 1960s; the Apollo 11 crew accomplished this goal on July 20, 1969.³⁵

Despite the significant amount of media attention on Project Apollo, according to the public opinion polls, only a minority of Americans actually supported the moon-landing mission.³⁶ The vast majority of polls during the 1960s suggest that 45 to 60 percent of Americans believed that the government was devoting too many resources towards space research when there were other domestic priorities needing attention, such as urban infrastructure, cancer research, and vocational training. The space budget increased more than tenfold over five years, while during the same period the total American expenditure on research and development, including private industry and medical research, had not even doubled.³⁷

One of the main reasons for pursuing Project Apollo was the Space Race between the United States and the Soviet Union for supremacy in spaceflight. Space exploration served as a new opportunity to gain power during the Cold War, especially following the Nuclear Arms Race for nuclear tactical superiority. Tensions between the two superpowers were also elevated

³⁵ "Apollo 11 Mission Overview," *National Aeronautics and Space Administration (NASA)*. Accessed on July 13, 2016. http://www.nasa.gov/mission_pages/apollo/missions/apollo11.html

³⁶ Roger D. Launius, "Public opinion polls and perceptions of US human spaceflight." *Space Policy*, 19 (2003): 163-175. Accessed July 13, 2016.

[http://www.academia.edu/179045/ Public Opinion Polls and Perceptions of US Human Spaceflight](http://www.academia.edu/179045/Public_Opinion_Polls_and_Perceptions_of_US_Human_Spaceflight)

³⁷ Alexis C. Madrigal, "Moondoggle: The Forgotten Opposition to the Apollo Program." *The Atlantic*, September 12, 2012. Accessed July 13, 2016. <http://www.theatlantic.com/technology/archive/2012/09/moondoggle-the-forgotten-opposition-to-the-apollo-program/262254/>

by other events during the Cold War, such as the construction of the Berlin Wall, the Cuban missile crisis, and the outbreak of war in Southeast Asia.³⁸

Despite oppositions from the President's Science Advisory Committee and approximately half of the American citizens, the U.S. preferred to maintain its superiority in global status instead of tending to local priorities. Based on evidence of oppositions collected by sociologist Amitai Etzioni, "most scientists agree that from the viewpoint of science there is no reason to rush a man to the moon."³⁹

2.3 The Lorca Texts

Every musical aspect in *Night of the Four Moons* plays an integral part in conveying Crumb's message, but specifically, his descriptive expressions and borrowed texts are doors to his most inner thoughts. Additionally, his sensitivity and understanding of the Spanish language is reflected in his vocal writing by cycling syllabic and melismatic styles to adapt to the phonetic qualities of the language.⁴⁰ Although it is clear that Crumb did not intend to implicate Lorca's original meanings in *Night of the Four Moons*, the existing symbolism from the chosen lines possibly resonated with his feelings concerning the Apollo space mission. Understanding Lorca's poetry independently prior to making parallel symbolic comparisons to Crumb's views on the space mission is perhaps the only logical way to interpret the extracted texts in this work.

The four original poems by Lorca from which Crumb extracted texts are "Dos Lunas de Tarde" ("Two Moons of Afternoon"), "La Luna Asoma" ("The Moon Rising"), "Adán"

³⁸ "Space Race," History. Accessed July 13, 2016. <http://www.history.com/topics/space-race>

³⁹ Madrigal, "Moondoggle: The Forgotten Opposition to the Apollo Program."

⁴⁰ Stephen Chatman, "The Element of Sound in Night of the Four Moons," *George Crumb: Profile of a Composer*, 64.

(“Adam”), and “Romance de la Luna, Luna” (“Romance of the Moon, Moon”).⁴¹ Although the texts can be interpreted freely in Crumb’s musical setting, the lines in each movement constitute a stanza from its original poems; therefore, it is necessary to read the complete poems to understand Crumb’s source of inspiration. The complete poems with English translations can be found in the Appendix (pgs. 63-66).

When attempting to interpret Lorca’s poems, the reader should note Lorca regularly uses the moon to symbolize a wide range of concepts, including death, eroticism, fertility, sterility, or beauty.⁴² Each movement has its own character. The four moons in this four-movement cycle each represent Crumb’s ambivalent feelings toward Apollo 11, hence the title, *Night of the Four Moons*.

2.4 I. “The moon is dead, dead...”

[Spanish]

La luna está muerta, muerta;
pero resucita en la primavera.

[English Translation]

*The moon is dead, dead,
but it is reborn in the springtime.*

The opening movement reveals Crumb’s belief that once the moon is contaminated, it can never go back to the way it was before. With the words “dead” and “reborn,” Suzanne Mac Lean thinks that the text suggests the idea rebirth.⁴³ This is a logical conclusion considering that in the circle of life, death is equivalent to a new beginning, and rebirth is the beginning of the end. The idea of the moon being reborn in the springtime may be a sarcastic reference to mankind’s obliviousness, as if all living things, including the moon will resurrect in springtime. The moon

⁴¹ George Crumb, *Night of the Four Moons* (New York: Edition Peter, 1971), 3.

⁴² “Works for Federico Garcia Lorca.”

⁴³ Lean, “George Crumb, American Composer and Visionary,” *George Crumb: Profile of a Composer*, 23.

does not belong to the circle of life as we know it; we only have one moon and once adulterated, it will never be the same.

The polarity of life and death is expressed by the use of contrasting timbres and extreme ranges. The instruments are grouped in two sets of two instruments that have similar timbres: the alto flute and alto voice, the banjo and electric cello, along with percussion instruments, finger cymbals, bongo drums, and Chinese temple gong that provide high, medium, and low pitch areas. They are presented in this order in each of the four main sections of this movement, except in the last one, where Crumb did not include the bongo drums in order to feature the highest and lowest of the percussion instruments.⁴⁴

Approximately three seconds of silence (a symbol of the uncontrolled) separates the end of a section and the start of a new section (the controlled). The silence is an uncontrolled element, as it is not completely silent since Crumb exposes the audience to their surrounding noises during this time; any sound produced during these three seconds becomes part of the musical experience, which suggests the journey of life. Crumb's treatment of silence should also be considered as a metaphor for opposite polarities (i.e. the controlled vs. the uncontrolled, the foreseeable vs. the unforeseeable, etc.)

The repetitive structure and contrasting timbres in this movement feeds irony to the text. The assumption that all things will be reborn in the springtime is characterized by the repetitive start of each new section led by the banjo line, with the rest of the ensemble repeats the order of their entrances with the exception of the final section to signify that something is different this time. Intensity is also built upon longer passages and more agitated rhythms successively.

⁴⁴ William James McGee, "An Expanded Concept of Timbre and Its Structural Significance, with Timbral Analysis of George Crumb's *Night of the Four Moons*" (PhD diss., University of Arizona, 1982), 104.

The sarcastic text and music interact to emphasize mankind's careless attitude towards nature: the belief that once humans exhaust something, nature will heal itself to undo the harm. Even if the moon's rebirth is possible, it will not have the same soul as before; therefore, Crumb is suggesting that once an object is contaminated, it cannot be reversed to its uncontaminated state. This thought is demonstrated by a new timbre at the end of the movement, the 'speak-flute,' where the flutist is instructed to whisper the words over the mouthpiece and produce a faint pitch-echo while fingering the given pitches, instead of using purely voice or flute to represent the idea of rebirth (see Figure 1). Combining the sarcastic text with the ironic use of speak-flute to signify rebirth, Crumb is underscoring the blissful ignorance of humanity concerning attitudes towards nature and the moon.



Figure 1: George Crumb, *Night of the Four Moons*, I. “The moon is dead, dead...,” page 5, fourth system⁴⁵

2.5 II. “When the moon rises...”

[Spanish]

Cuando sale la luna,
el mar cubre la tierra
y el corazón se siente
isla en el infinito.

[English Translation]

*When the moon rises,
the sea covers the earth,
and the heart feels like
an island in infinity.*

⁴⁵ Crumb, *Night of the Four Moons*, 5.

The formal structure of the second movement resembles some of the *lieder* by Robert Schumann in ternary form; the song (section B) is framed by a prelude (section A) and a postlude (section A').⁴⁶ Texturally, it also progresses from simple to complex to simple, mirroring the formal structure of ABA'.

Pitch designation and pitch contour are the principal characteristics for symbolism in this movement. Many of the passages imitate the style of word painting to convey meanings of the texts, as well as existing situations in 1969. Additionally, the various descending passages and minimal dynamic contrasts are to reinforce the “languidly, with a sense of loneliness” emotion suggested by Crumb.

The cellist begins its eerie and unbroken glissando on a high D#, which is the highest note in this movement played by the lowest instrument of this work. Ironically, the two highest voices of this work, the alto and the alto flute player, gradually lower the general pitch range as they progress in this movement. The vocalist sings its lowest note (F#) in this movement in the middle of the voice and banjo sections (third system). Although the alto flute player produces the overall lowest notes as key clicks according to the score (groups of 32nd notes at the end of the fourth system), the pitches are perceived as indistinguishable and at a lower octave because the flutist is instructed to “cover mouth piece with mouth to produce lower octave.” Due to the nature of the low range and the effect, the actual pitches are difficult to identify by ear, and for this reason the F# sung by the voice is still considered the lowest pitch.

The counterintuitive pitch designations for the cello, voice, and alto flute described above is a sarcastic commentary on the inefficient use of resources by the United States. Forcing

⁴⁶ McGee, “An Expanded Concept of Timbre and Its Structural Significance, with Timbral Analysis of George Crumb’s *Night of the Four Moons*,” 122.

musicians to the extremes of their ranges reflects the difficult times the nation was experiencing, as well as the superfluous funds that were spent on space exploration while reducing the nation's effort in other scientific endeavors. The overall mood expresses how the citizens might have felt to have their voices ignored, their fear of the Cold War, and their disappointment is implied through the reoccurrence of descending pitch patterns.

The expression “languidly, with a sense of loneliness” hints at the country's morale when the government is spending all their attention on the space mission and its citizens are feeling ignored. The instrumental lines are depictions of existing issues in the U.S. at the time and people's frustration, while the voice line is the voice representation of the citizens. Several characteristics suggest this interpretation:

- Pitch organization: the alto flute line enters at the end of the first system with a repetition of four pitches (A, G, E, D). The banjo part enters with single notes of A and G, and the cello part takes over by playing E and D, outlining the pitch content of the alto flute part (see Figure 2). The recurrence of the four pitches symbolize the unresolved problems at the time of the space mission, such as the rise of unemployment rate and the Vietnam War, which is continually ignored while landing a man on the moon remained a priority at this dire time.
- Musical rhetoric (voice): Crumb uses word painting to enhance the meaning of the texts. The vocalist's line ascends as she sings about the rise of the moon and descends when “the sea covers the earth” (see Figure 3); the text serves as a metaphor for the diminishing trust as a nation with the country inundated in its suffering. People's hopeless attitudes towards the government are portrayed as an island, isolated from other texts to convey the idea of a lonely island; together

with the instruction of “incisive whispers” on the word “island” diminishes its presence even more (see Figure 4). And finally, the word “infinity” is elongated for a literal representation (see Figure 5).

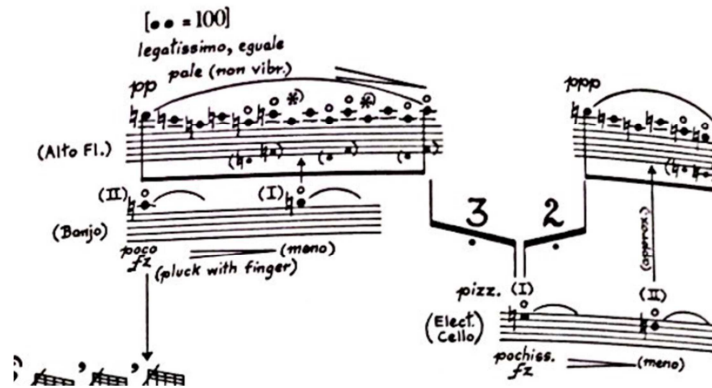


Figure 2: George Crumb, *Night of the Four Moons*, II. “When the moon rises...,” page 6, first system⁴⁷

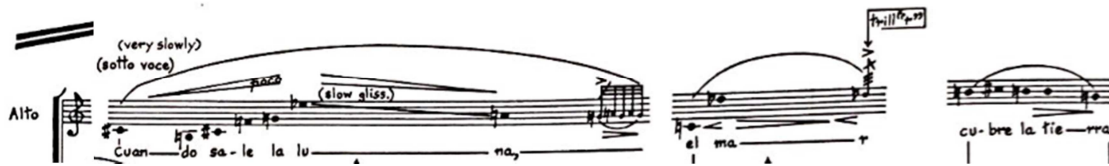


Figure 3: George Crumb, *Night of the Four Moons*, II. “When the moon rises...,” page 6, second system⁴⁸

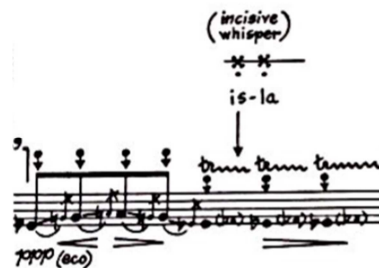


Figure 4: George Crumb, *Night of the Four Moons*, II. “When the moon rises...,” page 6, third system⁴⁹

⁴⁷ Crumb, *Night of the Four Moons*, 6.

⁴⁸ Ibid.

⁴⁹ Ibid.



Figure 5: George Crumb, *Night of the Four Moons*, II. “When the moon rises...,” page 6, third system⁵⁰

2.6 III. “Another obscure Adam dreams...”

[Spanish]

Otro Adán oscuro está soñando
neutra luna de piedra sin semilla
donde el niño de luz se irá quemando.

[English Translation]

*Another obscure Adam dreams
neuter seedless stone moon
where the child of light will be kindling.*

Crumb’s message in the third movement is conveyed through a mysterious character named Adam. To get a better sense of Crumb’s metaphor, I analyzed Lorca’s original poem to arrive at my conclusion for Crumb’s symbolism in relation to the intrusion of the moon.

In Lorca’s poem, it begins with a new mother expressing her agony under a tree. Her grieving voice lets us see the excruciating pain she is in. A morning light shines in on a cold apple, possibly on the tree that the woman is under. The light is innocent like a newborn, but the first thing it encounters when it hits this world is a cold apple. This cold apple represents the cold world that the woman and Adam live in. Adam fantasizes about a warm place where the child can run free in a warm and hospitable land, but this fantasy is broken by the harsh reality that Adam thinks that the child is doomed to grow up in a cold and inhospitable world. Crumb chose the final stanza of the original poem to depict his concerns on the undesirable

⁵⁰ Ibid.

consequences that humans are not ready to handle: “Adam” could be a representation of the composer himself or the opposition party of the space mission; the “boy of light” symbolizes the next generation; and the “neuter seedless stone moon” signifies the lifeless and uncomfortable environment that the next generation might have to live in.

The beginning of the movement sets up the environment that Adam is in. Based on pitch registers and timbral combinations, it can be divided into three sections:⁵¹

- The first section (mm. 1-5) involves four instruments: piccolo, cello, African thumb piano (mbira), and glockenspiels played by the vocalist. Pitches remain mostly in the middle to high register. The mood is static as portrayed by the music with only four pitches (D#, C#, A#, G#) played by the entire ensemble.
- The second section begins at *Senza misura, liberamente*. It is to be played freely by the piccolo, to imitate a series of birdcalls. Musically, the first two sections are depicting the peaceful and desirable living environment in Adam’s fantasy.
- The third section begins at *Tempo primo*. This section involves all five performers of the ensemble and the ensemble is divided into two timbral combinations; it is possible that it represents two different entities. The first group involves the alto voice and alto flute; the motionless vocal line can be a representation of Adam, reciting half of the text on a single pitch (D#). The alto flute line joins in unison with the vocal line, followed by slightly altering the pitch a quartertone higher and lower for the remainder of the passage; this effect which Crumb described as a “ghost echo” is to portray the fantasizing state of Adam. The second group involves the banjo, cello, and mbira; each line follows a specific rhythmic pattern utilizing only four pitches (E,

⁵¹ McGee, “An Expanded Concept of Timbre and Its Structural Significance, with Timbral Analysis of George Crumb’s *Night of the Four Moons*,” 139.

D, B, A). These lines are simply articulating sound effects for its existence without any distinguishable harmony and melody. This is Crumb's musical depiction of a hostile living environment of the future. Finally, the vocalist delivers the last line "where the boy of light goes burning" on a series of mostly whole steps and half steps that possess an uncertain feeling. Crumb instructs the vocalist to whisper the last two words "darkly" without pitch; the gloomy effect suggests the barren environment that the future generation might have to endure.

2.7 IV. "Run away moon, moon, moon!..."

[Spanish]

[English Translation]

Huye luna, luna, luna!
Si vinieran los gitanos,
harían con tu corazón
collares y anillos blancos.

Run away, moon, moon, moon!
If the gypsies should come,
they will make of your heart
necklaces and white rings.

Niño déjame que baile.
Cuando vengan los gitanos,
te encontrarán sobre el yunque
con los ojillos cerrados.

Child, let me dance.
When the gypsies come,
they will find you on the anvil
with your little eyes closed.

Huye luna, luna, luna!
que ya siento sus caballos.

Run away, moon, moon, moon!
for I hear now their horses.

Niño déjame, no pises,
mi blancor almidonado.

Child, leave me, do not step
on my starched whiteness.

El jinete se acercaba
tocando el tambor del llano!
Dentro de la fragua el niño,
tiene los ojos cerrados.

Drumming the plain,
the horseman was coming near!
Inside the smithy
the child has closed his eyes.

Por el olivar venían,
bronce y sueño, los gitanos!
Las cabezas levantadas
y los ojos entornados.

Along the olive grove
the gypsies were coming, bronze and dream!
Heads high
and eyes half-closed.

¡Cómo canta la zumaya,
ay cómo canta en el árbol!

*How the owl hoots!
Ah, how it hoots in the tree!*

Por el cielo va la luna
con un niño de la mano.

*Through the sky goes the moon
holding a child by the hand.*

The text in the concluding movement is a dialogue between a threatening moon and a teasing child, which is resolved in the epilogue: “Through the sky goes the moon with a child in her hand.”⁵² While the text can be interpreted freely, it resonates one’s wish to keep the moon untouched by man. A plausible symbolic depiction of the Apollo 11 mission could be interpreted as such: the “child” represents the astronauts; the “smithy” signifies the rocket ship; and the “gypsies” embody the human race.⁵³

The text not only tells the story of a child’s demise, it also suggests the consequences of pursuing an irresistible temptation when it is better left untouched. In Lorca’s works, the moon is traditionally the symbol of death, yet its sensuous appeal disguises the disheartening thought. The child seems to have been forced to violate the moon as he urges the moon to leave before the gypsies make white necklaces and rings out of its heart. In return, the moon threatens the life of the child and demands to be left alone. The child is dead while the gypsies head towards the moon with their heads high and in anguish denial of the loss of the child. The owl is sorrowed by the child’s death and the moon then leads the child’s spirit to the heavens.⁵⁴

This movement is comprised of three contrasting sections: a child/moon dialogue, an improvisatory section, and an epilogue. The sections are distinguishable by ear as each section has its own distinct rhythmic motives and texture. The variety of timbres and tempos are

⁵² Lean, “George Crumb, American Composer and Visionary,” *George Crumb: Profile of a Composer*, 23.

⁵³ Chatman, “The Element of Sound in Night of the Four Moons,” *George Crumb: Profile of a Composer*, 62.

⁵⁴ Hugh H. Chapman, Jr., “Two Poetic Techniques: Lorca’s Romance de la luna, luna and Goethe’s Erlkönig,” *Hispania*, vol. 39, no. 4 (Dec., 1956), 451-452.

additional characteristics that help separate each section from one another. To add to the variety of colors, the vocalist is instructed to half-sing, glissando, hiss, whisper, speak, shout, hum, and hoot, in addition to singing in the ordinary manner.

In section one, pitch registers and rhythmic gestures seem to express the contrasting emotional states of the child and the moon. A frantic scene with the child in distress is depicted by a long, rapid tremolo played by the cellist, accompanied by cluster chords from the crotales with bursts of flutter tongue passages played by the piccolo player. The child proceeds to warn the moon about the imminent danger in a “shrill, metallic” and half-sung manner without producing exact pitches but following a specific pitch contour. The insistence of the child becomes stronger as the half-sung recitation gets higher and louder. In response, the moon’s music reveals its undisturbed state through less agitated rhythmic lines. In contrast with the child’s music, the vocalist is instructed to sing the text in a “coquettish, sensual” manner in the moon’s music, guided by specific pitch contours again, but this time, the accompanying instruments (i.e. the banjo membrane, the tambourine, a suspended cymbal, and castanets) do not have specific pitches, unlike in the child’s music. The theme of the child returns abruptly as the moon does not seem to care about the child’s first warning. Timbre remains the same, except that the registers are slightly higher this time to heighten the seriousness of the child’s advice. Once again, the moon responds with the same attitude and is accompanied by the same instrumental combination.

Approximately seven seconds of silence bridge the first two sections. The use of silence builds tension and incorporates the surrounding noise into the musical experience. The glockenspiel, banjo, and cello parts play in unison on A to mark the beginning of the second section; this A, which is sustained by the cellist alone throughout the entire section, could be a

symbol of the moon. While the rest of the ensemble mourns the loss of the child, the moon remains static to show that it is harmless. The performers slowly exit the stage one by one (in this order: conductor, flute, voice, banjo, and percussion), resembling Haydn's *Farewell Symphony*, in which the performers also leave the stage one by one until the piece has ended.⁵⁵ As each performer exits the stage to their offstage position, they strike on the pitch A on the crotale once as an acknowledgement of truce to the moon.

The cellist sustains the A into the final section, which is an epilogue that alternates between *Musica Mundana* (Music of the Spheres) played by the on-stage cello, and *Musica Humana* (Music of Mankind) played by the off-stage group comprised of alto voice, alto flute, banjo, and vibraphone to emerge and fade gradually.⁵⁶ The two musical representations are differentiated by tonality and harmony. The F# major tonality in *Musica Humana* is to continue Haydn's *Farewell Symphony* reference.⁵⁷ It is perhaps another reinforcement of the idea of departure. The Mahlerian lullaby (*Musica Humana*) is presented four times independently while the cellist (*Musica Mundana*) holds the pitch of A, and plays a total of four pitches individually (A, G, C, D) in between the lullaby entrances. Tempo for *Musica Humana* remains the same for each entrance, but decreases each time *Musica Mundana* emerges as if the distance between the moon and humans are getting wider.

Crumb utilizes the music and text to confront the danger of pursuing a beautiful object. In the case of the Apollo 11 mission, the moon would be the beauty in disguise as Crumb implies that there will be consequences as a result. The message is that nature is powerful and that mankind cannot win. To prove his point, the child (astronaut) lost his life, and, with no signs of victory, the humans left the moon in solidarity.

⁵⁵ Chatman, "The Element of Sound in Night of the Four Moons," *George Crumb: Profile of a Composer*, 64.

⁵⁶ Crumb, "Annotated Chronological List of Works," *George Crumb: Profile of a Composer*, 107.

⁵⁷ Chatman, "The Element of Sound in Night of the Four Moons," *George Crumb: Profile of a Composer*, 64.

CHAPTER 3

BLACK ANGELS (1970)

Completed during the height of the Vietnam War in 1970, *Black Angels (Thirteen Images from the Dark Land)* reflects the anger and darkness of the late 1960s. Crumb stated, “I did not set out to write an anti-war piece. But at the end of the writing process it struck me – and music can do this – that *Black Angels* just pulled in the surrounding psychological and emotional atmosphere.”⁵⁸ Crumb views this piece as a human testament, instead of propaganda, and that it is a parable on our troubled contemporary world.⁵⁹

Black Angels was commissioned by the University of Michigan, and was premiered by the Stanley Quartet, the dedicatee, on October 23, 1970 in Ann Arbor, Michigan.⁶⁰ The piece was arranged for electric string quartet; the amplification of the string instruments creates a surrealism that is heightened by several uncommon string effects, such as bowing near pegs as in the manner of viol players, trilling on the strings with thimble-capped fingers, etc. The musicians also double on maracas, tam-tams, and water-tuned crystal goblets, as well as whisper and shout in various languages, including German, French, Russian, Hungarian, Japanese, and Swahili.⁶¹

According to Crumb, the imagery of black angels symbolizes fallen angels, a conventional device used by early painters. This work depicts a voyage of the soul in three stages: Departure (fall from grace), Absence (spiritual annihilation) and Return (redemption).⁶²

⁵⁸ David Starobin, liner notes to “Black Angels” of the *Complete Crumb Edition, Vol. 7*, The Miró Quartet, Bridge Records 9139, CD, 2003.

⁵⁹ Ibid.

⁶⁰ Crumb, “Annotated Chronological List of Works,” *George Crumb: Profile of a Composer*, 107.

⁶¹ Ibid.

⁶² Ibid.

These stages are represented in three movements comprised of thirteen images to reflect the subtitle, *Thirteen Images from the Dark Land*. The formal structure and descriptive titles in *Black Angels* suggest a parallel with a Vietnam War soldier's fate. The soul's journey from a state of grace to spiritual destruction by Satan, and back to heaven for redemption is comparable to the soldier's fate of being drafted to combat, living the cruelty of the war in Vietnam, and returning home.

While it may not be obvious to the listener, numerology is considered the unifying element of this work as Crumb applied it conscientiously in the musical structure. Various numerological symbolism relationships are depicted through a number of elements, including phrase-lengths, groupings of single tones, patterns of repetitions, dynamic variants, pitch intervals and more. Crumb indicates that the reoccurring numbers 7 and 13 represent the essential polarity with 7 as God and 13 as Devil.⁶³ To further add to the numerological symbolism, Crumb ironically noted that *Black Angels* was completed on Friday, the Thirteenth.⁶⁴ With an understanding that the Vietnam War was a product of the Cold War, Crumb's "God versus Devil" symbolism could be an analogy for "non-communist nations against communist nations." Additionally, he alluded to the past (or God) by referencing tonal music, where harmony existed, and atonal music to reflect the tension of present time (or Devil).

As indicated in the score (see Figure 6), this work is palindromic in structure with Image 7 as the central axis. Crumb notes that the central motto (7 times 7 and 13 times 13) of Image 7 is the numerological basis of the entire work.⁶⁵ The palindrome is reflected in the orchestration, as well as in the numerological mottos of each Image in *Black Angels*. The idea of Crumb's numerological and musical allusions will be discussed in greater depth in later sections of this

⁶³ Ibid.

⁶⁴ George Crumb, *Black Angels (Images I)* (New York: Edition Peters, 1971), 9.

⁶⁵ Crumb, *Black Angels (Images I)*, Program.

chapter. Many of the interpretations presented for this piece were aided by an analysis previously conducted by Ji Hun Kim.⁶⁶

PROGRAM

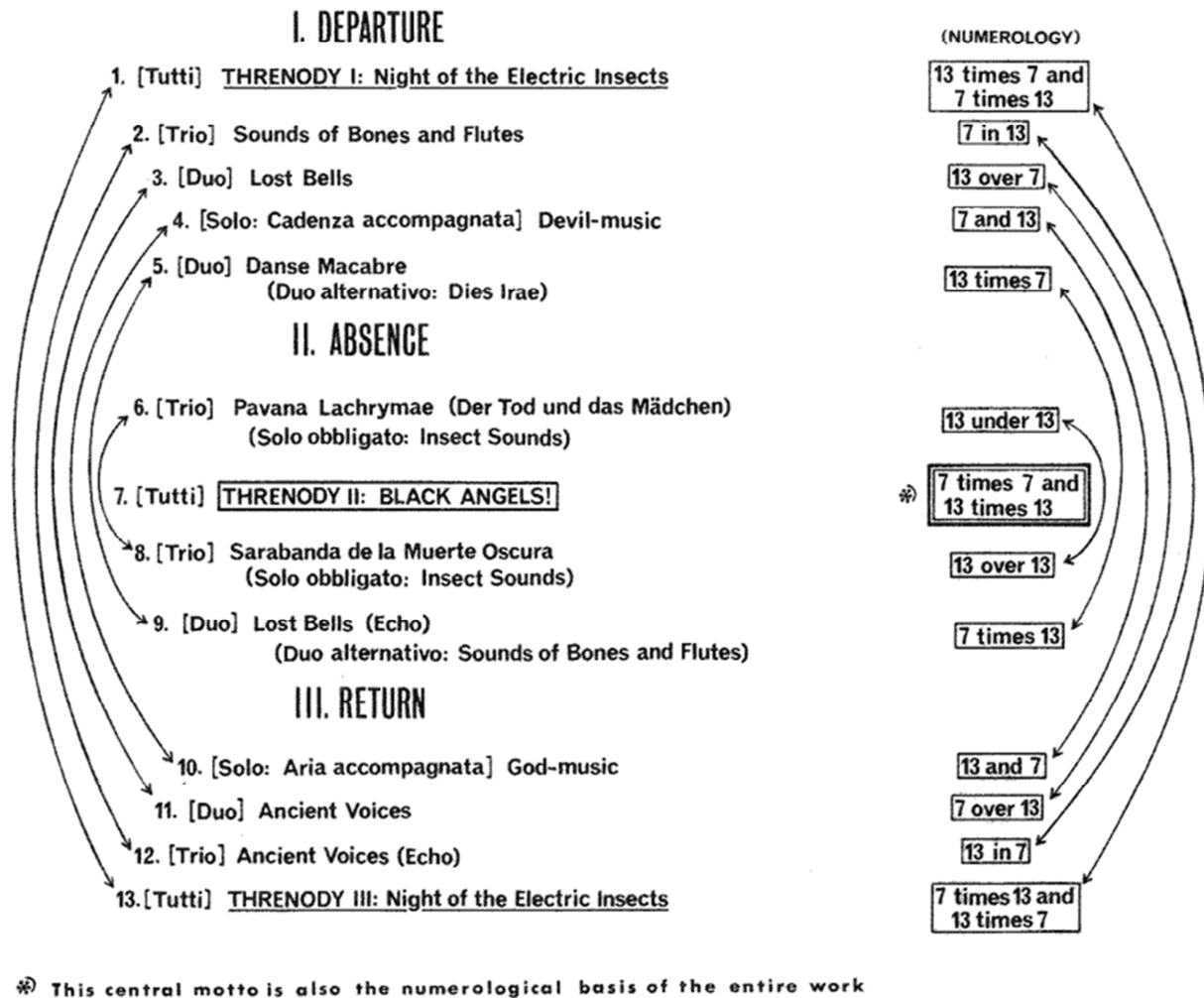


Figure 6: George Crumb, *Black Angels*, program⁶⁷

⁶⁶ Ji Hun Kim, "Compositional Procedures in George Crumb's String Quartet *Black Angels* and Composition of an Original String Quartet *Threnody for Victims of 9.11*" (DMA diss., New York University, 2002),

⁶⁷ Crumb, *Black Angels (Images I)*, Program.

3.1 A Brief Overview of the Vietnam War and the Anti-War Movement

During the Vietnam War, the communist North Vietnam was joined by the Viet Cong to fight against South Vietnam and its principal ally, the United States. The war spanned approximately two decades and had a significant impact on the creation of *Black Angels*. The United States entered the war in Vietnam incrementally between 1950 and 1965 for a number of reasons.⁶⁸ Fundamentally, the U.S. administration vehemently opposed communist principals. With the rise of the Ho Chi Minh led Communist Party in North Vietnam, the U.S. feared that allowing one Southeast Asian country to fall to communism would open the gates to others following suit. As the Cold War intensified, the U.S. strengthened its policies against allies of the Soviet Union, and by 1955 President Eisenhower, with an aim of halting the spread of communism, had vowed to support South Vietnam.⁶⁹

The ever-rising number of troops dispatched, killed, and wounded in the mid '60s fueled a growing anti-war movement in the United States. The opponents of the war maintained that civilians, not enemy soldiers, were the primary victims of the war, and that the U.S. was supporting a corrupt dictatorship in Saigon. A small group of liberal minorities, including peace activists, leftist intellectuals, and Students for a Democratic Society (SDS) initiated the anti-war movement by organizing anti-war marches, protests, and “teach-ins” on college campuses to express their opposition to the Vietnam War.⁷⁰ These efforts of the social movement culminated in a large anti-war demonstration at the Lincoln Memorial October 21, 1967, where approximately 100,000 protestors gathered, 30,000 of which continued to protest outside the

⁶⁸ Charles Mohr, “History and Hindsight: Lessons from Vietnam,” Special To The New York Times, *New York Times*, 1923 – Current File. April 30, 1985. Accessed July 18, 2016.

⁶⁹ Gareth Porter, “Explaining the Vietnam War: Dominant and Contending Paradigms,” *Making Sense of the Vietnam Wars* (New York: Oxford University Press, 2008), 67-90.

⁷⁰ John Day Tully, Matthew Masur, and Brad Austin, eds., “Introduction: Key Questions and Enduring Debates,” *Understanding and Teaching the Vietnam War* (Madison, WI: The University of Wisconsin Press, 2013), 8.

Pentagon later that evening. Supporters of the anti-war movement included civil rights leader, Martin Luther King, Jr., who was assassinated in April of 1968, and members of the Vietnam Veterans Against the War.⁷¹

The social movement continued to build momentum with the escalation of the conflicts in Vietnam. Hundreds of anti-war demonstrations erupted throughout the nation between 1968 and 1969, with the largest protest taking place on November 15, 1969 in Washington, D.C. The war was a source of stark division among Americans at the time. For many, the war signified “a form of unchecked authority” they had come to resent, while for others, opposing the government was viewed as “unpatriotic and treasonous.” Tension erupted in 1969 when President Nixon instituted the first U.S. draft lottery since World War II, which compelled many American men to seek refuge in Canada to avoid conscription. In 1972, President Nixon ended draft calls and instituted an all-volunteer army the following year.⁷²

The Vietnam War turned out to be a bigger battle than the United States had anticipated and generated even more chaos on the home front. Billions of dollars in resources and innocent lives were lost while U.S. policymakers chased after their ideology and pride. The effects of the war persisted well after Nixon brought the last troops back from Vietnam in 1975. Out of the approximately 1.6 million people who died from the war, 58,000 were American.⁷³ Life was difficult for the soldiers who returned home. Many of the veterans suffered from Post-Traumatic Stress Disorder, which was largely unrecognized and untreated at the time. Many American

⁷¹ “Vietnam War Protests,” *History*. Accessed April 15, 2016, <http://www.history.com/topics/vietnam-war/vietnam-war-protests>

⁷² “Vietnam War History,” *History*. Accessed July 19, 2016. <http://www.history.com/topics/vietnam-war/vietnam-war-history>

⁷³ Mohr, “History and Hindsight: Lessons from Vietnam,” April 30, 1985.

citizens also viewed returned soldiers as criminals and treated them with disdain.⁷⁴ The massive cost of the war between 1965-75 contributed to widespread inflation. This costly conflict is evidence that America was not invincible, and that war should not be something to enter rashly. As the amount of violence accumulated up through the late 1960s, America was clearly troubled and its people were making their voices heard from having suffered enough aftermath from the war.

Instead of joining anti-war protests, Crumb depicted the chaotic state of the country and expressed his thoughts through music, as he inscribed in the score that *Black Angels* was composed *in tempore belli* (in time of war), referring to the Vietnam War. It expressed people's sufferings at the time and provided a realistic outlook at the future. Although this piece did not spark a specific anti-war protest or put an end to the war immediately, the motivation behind *Black Angels* was to illustrate the chaos as a result of the war and the fact that we live in a world where the good and evil must coexist. The three movements ("Departure," "Absence," and "Return") are comparable of a soldier's deployment. Through the thirteen images, Crumb evokes what might have been the young man's consciousness during a time of turmoil.

3.2 I. "Departure"

Image 1: *Threnody I: Night of the Electric Insects* [Tutti] (13 times 7 and 7 times 13)

Image 2: *Sounds of Bones and Flutes* [Trio] (7 in 13)

Image 3: *Lost Bells* [Duo] (13 over 7)

Image 4: *Devil-music* [Solo: Cadenza accompagnata] (7 and 13)

Image 5: *Danse Macabre* [Duo] (13 times 7)

In the first movement, "Departure," Crumb illustrates the emotional downward spiral of a young man as the Vietnam War dictates his fate. The general mood of this movement is dark

⁷⁴ George Robert Baker. "Post-Traumatic Stress Disorder Differences Between Theater and Non-Theater veterans of the Vietnam Era: Service, Race, and Symptom Implications (Ground Troop)" (PhD diss., United States International University, 1986), 1-5.

with references to the Devil and quotations of the Latin sequence *Dies Irae*, a medieval melody that accompanies the day of wrath when all souls will be judged. The Devil, symbolized by the number 13, represents the intent to fight, conflicts concerning the justness of participating in the war, and Communism. God on the other hand, symbolized by the number 7, signifies the opposition of the war, peace, and Democracy. The five images in “Departure” depict a tainted soul’s expulsion from Heaven; similarly, from the viewpoint of the war, the five images portray a soldier’s fate during a difficult time. Crucially, the soldier is conflicted between good and evil, but has no choice in the matter after being drafted to Vietnam to fight communism. These five images depict the grim environment in Vietnam (Images 1 and 2), followed by a sense of emptiness and diminution of hope as a result of the draft, which was unavoidable (Image 3). The thoughts of violence and hate created by the war, represented by Devil’s music, are interjected by God’s voice to suggest a possible silver lining (Images 4 and 5). Throughout this movement struggles are sonically depicted through extreme dynamics, contrasting textural density, and numerology. The abundant evidence of numerology in this work suggests that every number correlates with the numerological basis of 7 and 13. Each musical thought is significant and representational of something.

3.3 II. “Absence”

Image 6: *Pavana Lachrymae* [Trio] (13 under 13)

Image 7: *Threnody II: Black Angels!* [Tutti] (7 times 7 and 13 times 13)

Image 8: *Sarabanda de la Muerte Oscura* [Trio] (13 over 13)

Image 9: *Lost Bells (Echo)* [Duo] (7 times 13)

The second movement, “Absence,” describes the soldier’s time away from home. The mood is pessimistic as countless U.S. troops were getting killed in Vietnam. There are four images in this movement with Image 7 as the central axis of the complete work. Considering

Image 7 as the fall of the Devil, Kim suggests that the other images are composed for Image 7 intentionally: “Image 6 forecasts the fall of the devil, and Images 8 and 9 describe the funeral and terminating scenes of the devil.”⁷⁵ In Image 6 Crumb foreshadowed deaths by inserting a quotation of Schubert’s *Death and the Maiden* melody. The rest of this movement implies the U.S. troops being defeated by the Communist troops, as the numerology of 13 seems to dominate. From being in the combat zone (Image 7), to feeling helpless and defeated (Images 8 and 9), the troops prepare to return home. Crumb incorporates a 13-second silence at the beginning of Image 6 and at the end of Image 9 to heighten the imagery of absence.

3.4 III. “Return”

Image 10: *God-music* [Solo: Aria accompagnata] (13 and 7)

Image 11: *Ancient Voices* [Duo] (7 over 13)

Image 12: *Ancient Voices (Echo)* [Trio] (13 in 7)

Image 13: *Threnody III: Night of the Electric Insects* [Tutti] (7 times 13 and 13 times 7)

The final movement, “Return,” portrays the young man’s homecoming where he reflects on the purpose of human beings. It includes four images with the final image (13) suggesting the lingering presence of the Devil. A newfound calmness is presented as a result of the soldier’s return home from the war (Image 10), where he could possibly find hope again. He contemplates the purpose of mankind and comes to realize that all creations need each other in order to build a peaceful living environment (Images 11 and 12). Alas, conflicts in Vietnam are still going strong and more lives will be sacrificed, the young soldier comes to accept the brutality of the war and its unanticipated consequences (Image 13). The coincidence of Crumb’s completion of *Black Angels* on Friday, the Thirteenth emphasizes the gravity of the situation in Southeast Asia and his overall opposition to the conflict.

⁷⁵ Kim, “Compositional Procedures in George Crumb’s String Quartet *Black Angels* and Composition of an Original String Quartet *Threnody for Victims of 9.11*,” 73.

CHAPTER 4

VOX BALAENAE (1971)

Vox Balaenae (*Voice of the Whale*) was completed in 1971 for the New York Camerata, who later premiered this work on March 17, 1972, at The Library of Congress in Washington, D.C.⁷⁶ It is scored for flute, cello, and piano (all amplified). All three performers wear black half-masks during the performance to eliminate human projection. The intent of the masks is to block out individual personalities that might come through during a live performance. According to Crumb, the masks symbolize the “powerful impersonal forces of nature (i.e. nature dehumanized).”⁷⁷ Additionally, the use of deep-blue stage lighting is recommended as it provides a sense of the sub-aquatic.

Vox Balaenae is presented in three parts: a prologue titled, “Vocalise (...for the beginning of time),” followed by a set of theme and variations named after geological eras, and an epilogue titled, “Sea-Nocturne (...for the end of time).” This work has an arch structure with Variation V (Cenozoic) as the climatic point. In an interview with Crumb on April 14, 1977, Robert Shuffett questioned the meaning of utilizing geological eras as variations titles, Crumb clarified that the piece was conceived as a set of variations, and the geological titles are “purely whimsical;” Crumb added, “for example, in one variation – the Archeozoic – I include the sea gull effect, when in fact, there was no form of life in existence during that period.”⁷⁸ The whimsically chosen titles are not to provide imageries. However, the developing variations suggest a parallel with the evolution of life. In another interview with Edward Strickland,

⁷⁶ Crumb, “Annotated Chronological List of Works,” *George Crumb: Profile of a Composer*, 108.

⁷⁷ Ibid.

⁷⁸ Robert V. Shuffett, “The Music, 1971-1975, of George Crumb: A Style Analysis” (DMA diss., Peabody Institute of John Hopkins University, 1979), 66.

Crumb admitted his slight obsession with time in *Vox Balaenae*, and that he wanted to imply a sense of measureless time in the titles.⁷⁹

As a response to the rising toll in environmental destruction, *Vox Balaenae* invites listeners to reflect on the beauty of nature. Crumb combines the sounds of the flute, cello, and piano with additional timbres such as harmonics, whistling, and vocalization to suggest the sound and feel of ocean activities. Crumb utilizes the flute to produce a singing whale effect, as he was inspired partially by Dr. Roger Payne's recording of a singing humpback whale, for which became a musical representation for whale conservation. Crumb's thoughts on the subject matter are revealed through layers of significance, including the implication of the masks, titles of movements, structure of the work, parody of Richard Strauss's *Also Sprach Zarathustra*, and Stanley Kubrick's 1968 science fiction film, *2001: A Space Odyssey*. Each of these components suggests an idea and assists in the shaping of Crumb's inclusive message of *Vox Balaenae*. In addition, the understanding of environmentalism and the anti-whale activism in the 1960s helps provide context for interpreting Crumb's intended message.

4.1 Environmentalism in the 1960s

Environmentalism gained traction in the 1960s, which was followed by a period of growth, as the message about the impact humanity was having on its natural surroundings began to penetrate the masses. Although it is difficult to mark a definitive start of the environmental movement, many historians believe that the publication of Rachel Carson's *Silent Spring* in 1962 provided just that. Carson warned about the hazards of the growing American industrial society and emphasized that humans were endangering their natural environment. The title of the work

⁷⁹ Edward Strickland, "George Crumb," *American Composers: Dialogues on Contemporary Music* (Bloomington: Indiana University Press, 1991), 167.

implied that the continued destruction of nature would eventually lead to irreversible changes to the environment and extinction of wildlife. In addition to Carson's book, several events in the 1950s and 1960s illustrated the magnitude of environmental damage caused by humans, including the nuclear tests at Bikini Atoll and a Union Oil Company oil spill in California's Santa Barbara Channel, which focused attention on water pollution and the endangerment of ocean life. As such, inspired partly by political activism such as the Civil Rights and Anti-War movements, thousands participated in environmental politics eventually propelling environmentalism to the level of a mass social movement in the 1960s. The movement saw some early success, influencing the passing of several new environmental laws by the U.S. legislature, including the Wilderness Act of 1964, the Clean Air Acts of 1963 and 1967, the Clean Water Act of 1960, and the Water Quality Act of 1965.⁸⁰

4.2 Anti-Whaling Activism

Large whales had been hunted heavily for their value in meat, oil, and baleen throughout history from prehistoric to the twentieth century. The toll on whale populations was observed as early as the 1700s, with the populations of North Atlantic right whales decimated by this time, and the North Atlantic gray whales having already been hunted to extinction.⁸¹ The slaughter continued, and between 1900-99 nearly 2.9 million large whales were killed and processed, with the highest totals of whales killed between 1925-39 in the Southern Hemisphere and 1946-75

⁸⁰ Daniel Geary, "Environmental Movement," Dictionary of American History, 2003, *Encyclopedia.com*. Accessed April 19, 2016, http://www.encyclopedia.com/topic/Environmental_Movement.aspx

⁸¹ Simona L. Perry, Douglas P. DeMaster, and Gregory K. Silber, "The Great Whales: History and Status of Six Species Listed as Endangered Under the U.S. Endangered Species Act of 1973," *Marine Fisheries Review*, vol. 61, no. 1 (1999): 1. Accessed Aug. 4, 2016, http://aquaticcommons.org/9797/1/mfr6111_6.pdf

combined for both hemispheres. Despite the observed shrinking whale populations, whaling continued; as one species began to decline, another was hunted to take its place.⁸²

In 1967, the discovery of singing humpback whales by American conservationist, biologist, and research zoologist, Dr. Roger Payne, sparked one of the greatest conservation movements in human history. Through the use of hydrophone, Payne recorded whale calls from underwater, and together with researcher Scott McVay, they identified these sounds as songs produced by some species of whales, notably the humpback.⁸³ Payne's research concluded that whales are intelligent and social mammals, as singing is an interaction or signal between male humpback whales. Humpback whale songs are built on repeated sequences of sound that progressively change or evolve as they are sung. The whale song is particular to a single population with all the singers in the same group singing the same version at any given time.⁸⁴

Payne spent the next two years distributing original recordings of whale songs to musicians, composers, and singers in hopes to raise awareness for whale conservation through other cultures. In 1969, George Crumb and Judy Collins were some of the artists that Payne entrusted his whale recordings. It is from these recordings that Crumb found his inspiration for *Vox Balaenae* and utilized the flute to impersonate a singing whale. Collins featured excerpts from Payne's recordings in the whaling song, "Farewell to Tarwathie" of her best-selling album, *Whales and Nightingales*.⁸⁵ Finally, in 1970 Payne compiled some of these original recordings

⁸² Robert C. Rocha, Philip J. Clapham, and Yulia V. Ivashchenko, "Emptying the Oceans: A Summary of Industrial Whaling Catches in the 20th Century," *Marine Fisheries Review*, vol. 76, no. 4 (2014): 40-45. Accessed Aug. 4, 2016, <http://ezproxy.library.unlv.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=101815659&site=ehost-live>

⁸³ "The Song of the Whale," Oceans, *Public Broadcasting Service (PBS)*. Accessed August 3, 2016, <http://www.pbs.org/earth-a-new-wild/episode-oceans/whales/>

⁸⁴ "Why Do Humpback Whales Sing?" Humpback Song, *Voices of the Sea*. Accessed April 30, 2016, http://cet.usd.edu/voicesinthesea_org/videos/videoHumpbackSong.html

⁸⁵ Richie Unterberger, "Liner Notes for Judy Collins's Whales and Nightingales," *Richie Unterberger Website*. Accessed August 4, 2016, <http://www.richieunterberger.com/whales.html>

from his research and released a record album called, *Songs of the Humpback Whale*, which is still the best selling natural history recording in history.⁸⁶

As concerns for endangered whales rose, the U.S. legislature passed environmental laws, such as the Endangered Species Conservation Act (ESCA) of 1969, the Marine Mammal Protection Act (MMPA) of 1972, and the Endangered Species Act (ESA) of 1973.⁸⁷ Additionally, several new environmental non-profit organizations were formed, including Ocean Alliance,⁸⁸ founded in 1971 by Payne, and Greenpeace,⁸⁹ founded by a group of activists in Vancouver, Canada in 1971. Crumb's *Vox Balaenae* contributed to the awareness of whale conservation, and provided a distinct musical voice to the world's first anti-whaling campaign launched by Greenpeace in 1975, which eventually ignited a global "Save the Whales" movement.⁹⁰

4.3 I. "Vocalise (...for the beginning of time)"

The opening movement is a cadenza for the flutist, who simultaneously plays and sings into the flute to produce a surreal timbre to mimic the sounds of the humpback whale. This solo represents the existence of whales, and the movement title suggests a time before whales' extinction. There are three main timbral effects: sing-flute (see Figure 7), cover-and-sing flute (see Figure 8), and ordinary flute or *modo ordinario* as indicated in the score (see Figure 9), played without extended techniques. The 'sing-flute' effect is a flute extended technique where

⁸⁶ "Roger Payne," Meet the Crew, *The Voyage of the Odyssey*. Accessed February 24, 2016, http://www.pbs.org/odyssey/odyssey/roger_payne.html

⁸⁷ Perry, DeMaster, and Silber, "The Great Whales: History and Status of Six Species Listed as Endangered Under the U.S. Endangered Species Act of 1973," 1.

⁸⁸ "History," *Ocean Alliance*. Accessed Aug 4, 2016, <http://www.whale.org/the-mission/about-us/>

⁸⁹ "The Founders of Greenpeace," *Greenpeace USA*. Accessed Aug 4, 2016, <http://www.greenpeace.org/international/en/about/history/founders/>

⁹⁰ Sebastian Stelios, "Save the Whales' 35th Anniversary," *Greenpeace USA*. Accessed February 24, 2016, <http://www.greenpeace.org/usa/save-the-whales-35th-anniversary/>

the flutist sings and plays the same pitches simultaneously. The ‘cover-and-sing flute’ effect is created by covering the mouthpiece with the lips while singing a single pitch and fingering the notes in the top line, producing a fast key-clicks effect. The alternation between the ‘sing-flute’ and the ‘cover-and-sing flute’ effects mimics a “call and response” between whales. The addition of the ‘ordinary flute’ timbre towards the end of the movement suggests a new idea and shifts away from the whale “call and response” melody as presented previously.



Figure 7: George Crumb, *Vox Balaenae*, I. “Vocalise (...for the beginning of time),” page 6, first system⁹¹

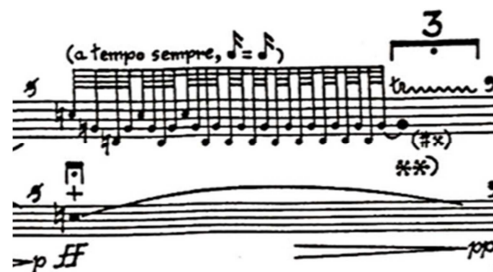


Figure 8: George Crumb, *Vox Balaenae*, I. “Vocalise (...for the beginning of time),” page 6, first system⁹²

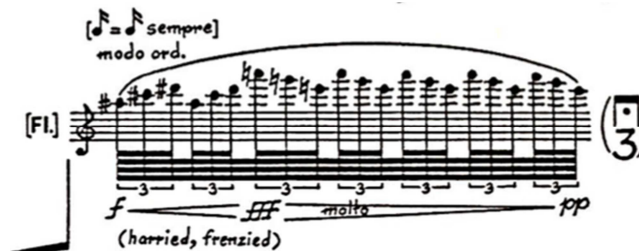


Figure 9: George Crumb, *Vox Balaenae*, I. “Vocalise (...for the beginning of time),” page 7, second system⁹³

⁹¹ George Crumb, *Vox Balaenae for Three Masked Players* (New York: Edition Peters, 1972), 6.

⁹² Ibid.

⁹³ Ibid., 7.

This movement is divided into three parts and each of the three timbral groups is associated with a motivic element. The ‘sing-flute’ sections at the beginning of the movement are chromatic in nature; they are largely characterized by half-step intervals combined with a few major second, minor third, and tri-tone intervals. The absence of a key makes tonality ambiguous throughout the entire work. The opening flute solo begins on D, followed by E-F-G#-Bb-A (see Figure 7); this interchange between whole step and half step intervals suggests an octatonic scale and establishes the sonority for *Vox Balaenae*. The ‘cover-and-sing flute’ sections are more diatonic in nature due to less emphasis on chromaticism, as well as the insignificance in the tonal outcome produced by key-clicks while sustaining a single pitch. Figure 15 provides an original colored analysis of “Vocalise (...for the beginning of time)” that illustrates the alternation between the different timbral groups, as well as the recurring sinister sounding tri-tone intervals that allude to danger.

In Part II of “Vocalise,” Crumb introduces a parody form of the *Also sprach Zarathustra* theme by Richard Strauss.⁹⁴ One of Crumb’s compositional characteristics is referencing pre-existing music to convey a metaphor through his music. For example, in his *An Idyll for the Misbegotten* (1986), a work where Crumb described that “mankind has become ever more illegitimate in the natural world of the plants and animals;”⁹⁵ he referenced Debussy’s *Syrinx* to represent man’s obliviousness to their destruction of nature just as Pan unknowingly killed his love, Syrinx, by carving his pipes from the water reeds she turned herself into. Crumb’s parody on Strauss’ *Zarathustra* may be a reference to mankind’s discovery of whaling, as well as an implication on its unforeseen consequences. This interpretation originates from Stanley Kubrick’s 1968 science fiction film, *2001: A Space Odyssey*. The film is notable for its minimal

⁹⁴ Shuffett, “The Music, 1971-1975, of George Crumb: A Style Analysis,” 70.

⁹⁵ George Crumb, *An Idyll for the Misbegotten* (New York: Edition Peters, 1986), 3.

dialogue experience and relies heavily on classical music for conveying the message, for which Kubrick also adapted Richard Strauss' tone poem inspired by Friedrich Nietzsche's philosophical novel of the same name.⁹⁶

In the preamble by Nietzsche, Zarathustra had a peaceful ten years of solitude in the mountains until one day he decided that he wanted to become human again. He arose with the dawn and asked the Sun what brings him happiness. Zarathustra was reminded that in order to be happy he must distribute his wealth of wisdom just like the Sun, who provides everyone and everything, thus Zarathustra began his descent from the mountains.⁹⁷ For Strauss, his intention was "to convey in music an idea of the evolution of the human race from its origin, through the various phases of development, religious as well as scientific, up to Nietzsche's idea of the Superman."⁹⁸ For Kubrick, he aimed to highlight several aspects revolving human evolution and science; the implication is that science has its limits and that humans' discoveries may also lead to their own demise.

Strauss's tone poem depicts the idea of man versus nature. The nature theme (C-G-C) could represent the moment when Zarathustra stood in front of the abounding star, or it could be interpreted as Zarathustra's moment of clarity when he decided to become human again. Crumb uses the sung-pitches produced by the flutist (B-F#-B) to emulate the nature motive (C-G-C) played by the trumpets in the tone poem.⁹⁹ Strauss used a C tonal center to represent nature and a B tonal center to represent man, whereas Crumb uses different timbres to represent the subjects (e.g. the whale, mankind, or the seagull), as well as specific intervals (e.g. the tri-tone) to suggest an emotional state or a thought. In the film, the Zarathustra theme appears when the hominids

⁹⁶ John Williamson, "Freely after Nietzsche," *Strauss: Also sprach Zarathustra* (New York: Cambridge University Press, 1993), 1

⁹⁷ Richard Strauss, *Also sprach Zarathustra*, op. 30 (New York: Dover Publications, 2006), x.

⁹⁸ Williamson, "Strauss's individualism," *Strauss: Also sprach Zarathustra*, 28.

⁹⁹ Williamson, "Freely after Nietzsche," 3.

discovered how to use simple tools and weapons in prehistoric times, followed by fast forwarding to humans navigating the most complex of tools – operating space missions. The Zarathustra theme appears again at the end of the film when death is implying the beginning of new life. The Zarathustra motive (with a rising perfect fifth and perfect fourth) signifies a new beginning, discovery, and rebirth. The film’s overall message is that the beginning of time is also the end of time; this idea is indicated in the movement titles of *Vox Balaenae*, in the first and third movements, respectively.

In the case of “Vocalise” in *Vox Balaenae*, the nature theme from *Also sprach Zarathustra* signifies the whales, and the use of the tri-tone chords in the piano depicts mankind invading whales’ habitat. Similarly, when the tri-tone intervals repeatedly occur in the ‘sing-flute’ and ‘cover-and-sing flute’ sections in Part I of “Vocalise,” they are indications that danger is approaching. The parody idea prolonged for the *fff* piano entrance with two chords that are a tri-tone apart, F major and B minor (see Figure 10a). The shift from a major to a minor tonal center is reminiscent of the C major/C minor chords in the opening of the tone poem (see Figure 11). Tonal ambiguity continues to exist with this fusion of major and minor chords. The repetitive minor thirds motive (Ab-F) following the major/minor tonalities puts an emphasis on the minor chord, as well as builds more tension (see Figure 12). The central idea for Part II is repeated for a second time, as in *Also sprach Zarathustra* the order of the major/minor chords are now reversed to F minor and B major (see Figure 10b). When Crumb adapts the same progression on B-F#-B in Part II of “Vocalise,” it implies a sense of determination for protecting the whales from harm. The usage of a perfect fifth followed by a perfect fourth sounds empowering to our ears because of the overtone series; it gives a sense of strength in a very simple and powerful way.



Figure 10a: George Crumb, *Vox Balaenae*, I. "Vocalise (...for the beginning of time)," page 7, first system¹⁰⁰



Figure 10b: George Crumb, *Vox Balaenae*, I. "Vocalise (...for the beginning of time)," page 7, second system¹⁰¹



Figure 11: Richard Strauss, *Also sprach Zarathustra*, mm. 1-8.¹⁰²

¹⁰⁰ Crumb, *Vox Balaenae* for Three Masked Players, 7.

¹⁰¹ Ibid.

¹⁰² Strauss, *Also sprach Zarathustra*, op. 30, 1.

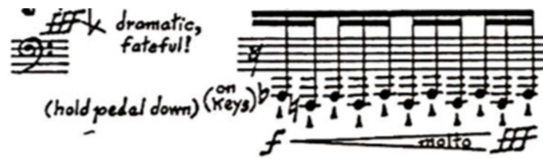


Figure 12: George Crumb, *Vox Balaenae*, I. “Vocalise (...for the beginning of time),” page 7, first system¹⁰³

Finally, the motivic element for the ‘ordinary flute’ section has sequences built on a minor third and a major second for the ascending motion, followed by reversed intervals from a major second to a minor third for the descending motion (see Figure 9). The pitches for the ascending sequence (A#-C#-D#) and the descending sequence (E-G-A) are drawn from an F# pentatonic scale and a C pentatonic scale, which suggest an octatonic scale when integrated. Again, the interval between the two pentatonic scales is a tri-tone apart, a distinctive element Crumb consistently used through all three parts of “Vocalise.” The recognition of the octatonic scale in the first movement is important as it returns as a cohesive element in Variation IV of the second movement, to demonstrate a period before the intrusion of man. Figure 13a illustrates the original notes from the ‘ordinary flute’ motive at the start of Part III; two pentatonic scales (F# and C) are illustrated in Figure 13b; and Figure 13c demonstrates the octatonic scale formed by the two pentatonic scales. Figure 15 demonstrates how these principles are applied in the score.

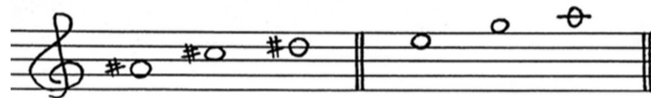


Figure 13a: Original notes from the opening ordinary flute motive of Part III.

¹⁰³ Crumb, *Vox Balaenae for Three Masked Players*, 7.



Figure 13b: F# pentatonic scale and C pentatonic scale.

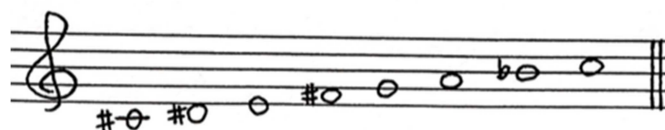


Figure 13c: The octatonic scale formed by two pentatonic scales.

The ‘ordinary flute’ section is divided into four large groups of sequences separated by pauses of a few seconds. The starting note (A#-F-C-G) for each set of sequences follows the circle of fifths progression, which is also the tonal progression for the nature motive from *Also sprach Zarathustra*. In “Vocalise,” the descending fourths (circle of fifth) progression is an allusion to tonal music while maintaining the octatonic sonority in each cell; the descending motion could be a reference to Zarathustra’s descent from the mountains. At the end of “Vocalise,” Crumb inserts a mini coda with the chromatic motive from the ‘sing-flute’ section in Part I, but this time played with the ‘ordinary flute’ sound. The return of the opening flute solo (see Figure 7) in the mini coda could be an indication of Zarathustra’s desire to become human again, but this time played with the ‘ordinary flute’ timbre to suggest a new beginning (see Figure 14). “Vocalise,” the prologue of *Vox Balaenae*, ends quietly before continuing on a chronological musical journey that includes elements of science, history, religion, existential philosophy, as well as various moral and ethical questions.¹⁰⁴

¹⁰⁴ “Crumb: Vox Balaenae (Voice of the Whale),” Videos, *MUSAIC*. Accessed December 5, 2015, <http://musaic.nws.edu/videos/crumb-vox-balaenae-voice-of-the-whale>

Crumb alters the ‘ordinary flute’ timbre with extended flute techniques to create textures and dialogues. His organization of pitches and timbres also establishes the structure for the movements to follow. In addition, the reoccurrences of simple tri-tones, major seconds, minor thirds, the circle of fifths progression, as well as the connections to *Also sprach Zarathustra* are vital components for conveying the symbolism in this work.



Figure 14: George Crumb, *Vox Balaenae*, I. “Vocalise (...for the beginning of time),” page 7, third system¹⁰⁵

¹⁰⁵ Crumb, *Vox Balaenae for Three Masked Players*, 7.

George Crumb

Figure 15: Original colored analysis of “Vocalise” to illustrate the alternation of different timbral groups¹⁰⁶

45

4.4 II. “Variations on Sea-Time”

The second movement consists of a single theme and five variations illustrating sea life activities from the time it was untouched and unharmed to the present when man has introduced stress to the previously peaceful environment. This idea is portrayed through its theme and developing variations. The music intensifies through the increase in dynamics, instrumentation, timbral variety, and the frequency of sudden contrasts. As mentioned in the introduction of this chapter, the whimsically chosen geological eras as variation titles are not suggestive of its imagery, but the developing variations form a parallel with the evolution of life. Robert Shuffett’s detailed analysis highlighted the motivic development derived from Sea-Theme and “Vocalise,” as well as important components, such as density and volume that help shape the formal structure of this movement.¹⁰⁸ It is important to note the intent for reiterating motivic elements and sustaining intervallic relationships throughout this work as they serve two purposes: 1) each recurrence of a motivic element symbolizes the return of a particular object or idea; 2) the recurrence of intervallic relationships operates as a cohesive element between the variations and movements.

Sea-Theme

The cellist introduces the sea theme quietly through a series of harmonics that follows a repetitive pattern of major seconds and minor thirds. This melody with minimal leaps in intervals paints a scene that is calm with minimal disruptions. It is the instrument’s first appearance in the work, which enhances the melody’s timbral interest. Shuffett mentions that Crumb often saves an instrument or a timbre for prominent structural events.¹⁰⁹ Accompanying the sea theme are dark chords of strummed piano strings to signify the deep blue sea. Crumb

¹⁰⁸ Shuffett, “The Music, 1971-1975, of George Crumb: A Style Analysis,” 76-96.

¹⁰⁹ Shuffett, “The Music, 1971-1975, of George Crumb: A Style Analysis,” 76.

calls this the “aeolian harp” effect; as described in the score, it is produced on the piano by silently depressing the designated keys with the left hand before strumming the strings inside the piano with the right hand (without pedal).¹¹⁰ One of Crumb’s techniques in connecting thematic materials between movements is the use of intervallic relationships. Shuffett suggests that the initial motive of Sea-Theme is similar to the final motive in “Vocalise,” both of which (the major second and minor third intervallic structure) are derived from the common pentatonic scale.¹¹¹ Aside from utilizing the pentatonic scale as a cohesive element, it is also used to metaphorically imply a period before man’s intrusion, as stated earlier with the usage of the octatonic scale in the first movement.

Archeozoic [Variation I]

The alternation between contrasting timbres is the character of Variation I. It is a dialogue between the cello and the piano; the two instruments alternate the ‘seagull effect’ of multiple glissandos invented by contrabassist, Bertram Turetzky¹¹² and the ‘chisel-piano’ passages to maintain a single melodic line, which is similar to the structure in the solo flute cadenza in “Vocalise.” The ‘seagull effect’ is suggestive of seagulls flying above the sea, and the ‘chisel-piano’ passages portray the smallest waves caused by disturbances in the sea.

Proterozoic [Variation II]

All three instruments appear together for the first time in Variation II; however, the structure is similar to the previous variation, where the flute and the cello alternate passages creating a monophonic dialogue above a pizzicato drone produced by the piano. The drone lasts throughout the variation, except that the timbre is slightly altered by the application of a paper clip to the repeatedly plucked string to produce metallic vibrations. Extra timbres are created

¹¹⁰ Crumb, *Vox Balaenae for Three Masked Players*, 8.

¹¹¹ Shuffett, “The Music, 1971-1975, of George Crumb: A Style Analysis,” 78.

¹¹² “Interview: Crumb/Shuffett,” *George Crumb: Profile of a Composer*, 37.

through martellato pizzicato by the cello, and vocalization by the flute. The syllables “ko-ki-ka-ku-ka-ki-ko” do not contribute much beyond an additional layer of sound; Crumb notes that, “consonants have certain percussive values, and vowel sounds express certain timbres;” he believes that composers have access to the whole world, which includes breaking phonetics from language altogether.¹¹³ The increase in new timbres in Variation II implies the expansion of wildlife activities in the sea.

Paleozoic [Variation III]

The intensity of *Vox Balaenae* continues to rise with each additional variation. In Variation III, all three instruments are incorporated again and the density grows thicker, especially with the sudden *ffz* dynamic markings in the piano part. Shuffett notes in his analysis that four slightly varied statements of an oscillating tri-tone motive make up the piano material.¹¹⁴ The flute and cello parts play four similar statements of the same tri-tone motive (in opposite direction of oscillation), stacked in parallel fifths with each other. For the most part of this variation, the pianist alternates his entrances with the flutist and cellist, with some overlaps in between, providing a sense of continuity like the vastness of the ocean. Another motive played by the piano is a falling motive built on major sevenths and tri-tones; they are also played four times in this variation, with the second and fourth sets transposed a tri-tone lower than the first and third sets. The motivic patterns described above (i.e. tri-tone relationships, falling motives, and moving in the opposite direction of oscillation) convey the impending conflicts as the intensity continues to progress.

Mesozoic [Variation IV]

¹¹³ Ibid., 84.

¹¹⁴ Ibid., 86.

Variation IV is the only section in *Vox Balaenae* without any extended techniques; however, Crumb alters the piano timbre to maintain a timbral variety that is a characteristic of his works. A glass rod (about 9 inches in length) is placed on the piano strings (C1 – F2), next to the dampers. This effect produces a jangling sound reminiscent of an ethnic instrument or a harpsichord. The flutist and cellist play in unison in parallel octaves throughout the entire variation; together in the high register, the two instruments produce a bright and glassy timbre. Dynamics ranged between *f* and *fff* for the most part, and the tempo (eighth note = 140) is faster compared to other variations in building towards the climax. On pitch content, the flute and cello parts derive their notes from a whole tone scale, and the piano material is derived from an octatonic scale. As a result, these combinations form an Eastern influenced sound that is accentuated by the repetitions in rhythmic and melodic motives. The unique timbre of this variation is suggestive of the unknown change that could take place.

Cenozoic [Variation V]

In the final variation, Crumb reworks several aspects from parts II and III of “Vocalise,” in addition to certain materials from other parts of the work. The emergence of man is symbolized by “partial restatements of the Zarathustra reference.”¹¹⁵ Shuffett points out that the Zarathustra theme is presented covertly by producing a flutter-tongued flute motive at its first entrance on system 2 imitating the rising fifth and fourth.¹¹⁶ The falling 3-note sequences at the end of the same passage is a derivative of the descending motive in part III of “Vocalise,” except this time it is based on chromatic semitones. An elaborated version of this sequence is restated by the cellist in leading towards the main climax of the second movement, which eventually results in the return of the tri-tone chords derived from “Vocalise” (see Figure 10b). In contrast

¹¹⁵ Crumb, “Annotated Chronological List of Works,” *George Crumb: Profile of a Composer*, 108.

¹¹⁶ Shuffett, “The Music, 1971-1975, of George Crumb: A Style Analysis,” 94.

to Figure 10b, the order of the chords is now reversed from F minor and B major, to B major and F minor (see Figure 16). The flutist whistles in D-sharp with quartertone fluctuations, and the D-sharps are in unison with the crotale played by the cellist. Interestingly, D-sharp is also the starting pitch of the concluding movement, “Sea-Nocturne (...for the end of time).” The quartertone fluctuations at the end of this variation may represent the flow of the ocean, as well as a sense of uncertainty in what is to come.



Figure 16: George Crumb, *Vox Balaenae*, II. “Variations on Sea-Time,” Cenozoic [Var. V], page 12, third system¹¹⁷

4.5 III. “Sea-Nocturne (...for the end of time)”

For the concluding movement, Crumb wanted to suggest “a larger rhythm of nature and a sense of suspension in time.”¹¹⁸ This idea is expressed through a combination of characteristics, including flowing melodies, subtle and frequent rhythmic repetitions and variations, avoidance of sudden dynamic contrasts, and the decay of sounds through pause brackets and playing in pantomime. Along with its title, the music conveys a lifeless ocean as a result of mankind’s discovery. Crumb settled on the key of B major as he envisioned a luminous tonality for the final movement, and decorates the imagery with shimmering sounds of the crotale (antique cymbals), played alternately by the flutist and cellist, as well as the utilization of whistling and

¹¹⁷ Crumb, *Vox Balaenae for Three Masked Players*, 12.

¹¹⁸ Crumb, “Annotated Chronological List of Works,” *George Crumb: Profile of a Composer*, 108.

harmonics throughout. The luminous tonality provides the scenery, and the shimmery timbres characterize the beaming reflections from the sun. Shuffett asked Crumb why he considered the key of B major to be luminous, and Crumb responded:

“...all the pieces that one thinks of in a particular key, color one’s sense of what that key means. One thinks of the Liebestod of Tristan, of the second movement of the Emperor Concerto, and especially of the piano pieces of Chopin – in which B major is always a very special key.”¹¹⁹

In addition to new elements in “Sea-Nocturne,” Crumb restates motives from “Vocalise” and “Variations on Sea-Time” in the final movement as a recall of events that have led to the current state. The coda features a gradual dying series of repetitions of a 10-note figure in the piano part; the decaying sound with a repetitive figure implies an object drifting away. Crumb instructs the pianist and the cellist to play the last set of the repetitive figure in pantomime (absolutely silent). According to Crumb, it is “to suggest a *diminuendo* beyond the threshold of hearing!”¹²⁰ The pantomime gesture is followed by a seven-second pause with the indication “hold attitude” in the score. This is a powerful statement from Crumb as he uses silence to invite listeners to think about what will happen next, musically and metaphorically. Crumb does not want the audience to conclude that all is lost and there is nothing more that can be done to prevent future maladies. Through the symbolism in *Vox Balaenae*, Crumb implies that the future of our living environment is in our hands, but also that since the environment is an integrated system of co-habitation, by corrupting other habitats, we are inadvertently killing our own.

¹¹⁹ Shuffett, “The Music, 1971-1975, of George Crumb: A Style Analysis,” 98.

¹²⁰ Crumb, “Annotated Chronological List of Works,” *George Crumb: Profile of a Composer*, 108.

CHAPTER 5

NEXT GENERATION OF COMPOSERS INSPIRED BY SOCIAL ACTIVISM

“Composing always has a social dimension, because composers engage in it in the context created by society,” said Juha Torvinen.¹²¹ George Crumb’s music rings true to this statement as his music reflects the social issues existed at the time of the compositions. As a form of expression, music has been used to address current social issues, as well as to convey one’s own thinking and emotions. For Crumb, he did not intend for his works to initiate a particular social activism, but through different mediums, such as poetry, theater, and musical rhetoric figures, his compositions embodied his emotions affected by social issues, and as a result they are influential in people’s outlook towards the future. Crumb’s method in delivering an ideology is more implicit in comparison to some classical contemporary composers in the late twentieth century and later who aspire to use music as a form of activism explicitly, such as works by David Holyoake, Colin Bright, and Martin Wesley-Smith. One of Crumb’s former students, Jennifer Higdon, remains closer to Crumb’s implicit way where they allow music to present the problems without expecting a specific outcome. Despite the slightest difference in the method of delivery, both approaches are sincere and have one thing in common – to make our future a better place.

The ability of music to promote appreciation of the natural environment, to convey a sense of community or cultural content, to enhance mental and physical wellbeing, or to attain some sort of transcendental reality is likely a motivation for using music as a form of activism.¹²² Although not obligatory, some composers are compelled to use music to evoke positive change.

¹²¹ Juha Torvinen, “Composing, music and society at large,” Music Research, *Finnish Music Quarterly*. Accessed August 18, 2016. <http://www.fmq.fi/2015/10/composing-music-and-society-at-large/>

¹²² Ibid.

Torvinen conducted a survey with a group of composers to examine their perceptions regarding the moral and ethical responsibilities of a composer. He found that most respondents saw no difference between their profession and that of any other.¹²³ A respondent replied:

“One cannot separate the moral and ethical responsibility of a composer from the moral and ethical responsibility of humanity in general: the responsibility to live with respect for nature, for the environment and for all other living things and to celebrate their diversity.”¹²⁴

From this viewpoint, composers should approach compositions holding the same ethical values as when not composing, and that composers should take advantage of the communicative power of music to promote the diversity of all living things.

Although music cannot unilaterally solve the problems in society, social activist composers seek emotional impacts through their works, as any positive shifts in thought by individual listeners can be viewed as a success. To George Crumb, “music surpasses even language in its power to mirror the innermost recesses of the human soul.”¹²⁵ His philosophy on music has influenced the next generation of composers. This is evident in how David Holyoake believes that music is “the original magic,” and that it is “the most abstract, and most mysterious, of the arts.”¹²⁶

David Holyoake prides himself as one of the few contemporary classical composers who use music in environmental activism.¹²⁷ He is a self-proclaimed environmental activist and climate change policy expert, and strongly believes that musicians and artists should take

¹²³ Ibid.

¹²⁴ Ibid.

¹²⁵ Don Gillespie, ed., *George Crumb: Profile of a Composer*, ix.

¹²⁶ David Holyoake, “*Extinct Birds* and contemporary music as activism: an invitation,” Feature Articles, *Resonate Magazine*, March 19, 2014. Accessed on August 18, 2016. <http://www.australianmusiccentre.com.au/article/em-extinct-birds-em-and-contemporary-music-as-activism-an-invitation>

¹²⁷ David Holyoake, “Biography,” *David Holyoake*. Accessed August 18, 2016. <http://www.davidholyoake.com/>

advantage of their media to advocate for social change.¹²⁸ Holyoake's *Extinct Birds* (2013) holds a powerful environmental message and resembles timbral influences from Crumb. It is a chamber work for baritone, B-flat clarinet, violin, cello, piano, and percussion, with live playback of recorded sound of extinct and endangered songbirds. Like Crumb, Holyoake uses descriptive movement titles to guide the audience's interpretation, and in the final movement the vocalist delivers an "apology to the birds" in Zulu and in English. He demonstrates the destruction that humans have caused by juxtaposing human song against the recordings of extinct and endangered songbirds. Holyoake points out that *Extinct Birds* provided him with more freedom to express his creativity, by allowing him to let go of the established musical structures to explore new melodic patterns.¹²⁹ This project was a commission from London based Ensemble Matisse, and supported by the Arts Council of England.¹³⁰ Holyoake's latest commission with an activism motive, *The Message of the Hurricanes* for soprano, harp, and flute is about climate change and financial greed.¹³¹

Other examples with activist messages in classical contemporary music include *Climate Change* (2010) by Colin Bright, featuring a set of variations based on an Earth Theme to illustrate the changes on earth, as well as to highlight how a scientific issue became a political issue.¹³² Bright's other work, an opera, *The Sinking of the Rainbow Warrior* (1994), addresses the destruction of Greenpeace's vessel, The Rainbow Warrior, by two French secret agents to prevent Greenpeace's protest against French nuclear testing in the Pacific Ocean in 1985; Bright

¹²⁸ "David Holyoake: Associate Artist," Represented Artists, Australian Music Centre. Accessed August 20, 2016. <http://www.australianmusiccentre.com.au/artist/holyoake-david>

¹²⁹ Holyoake, "*Extinct Birds* and contemporary music as activism: an invitation," March 19, 2014.

¹³⁰ "David Holyoake: Associate Artist."

¹³¹ Ibid.

¹³² "*Climate Change*: Trio," Colin Bright: Represented Artists, *Australian Music Centre*. Accessed August 20, 2016. <http://www.australianmusiccentre.com.au/workversion/bright-colin-climate-change/24712>

presents a variety of time frames of the story simultaneously to emphasize the many perspectives of this event.¹³³

Additional music with an environmental focus includes Martin Wesley-Smith's *Who Killed Cock Robin?* for a cappella choir (1979), which aims to draw attention to the negative environmental impacts that DDT (dichlorodiphenyltrichloroethane) has done to humans and wildlife.¹³⁴ Wesley-Smith mentioned that when he read Rachel Carson's *Silent Spring* at the age of seventeen, he was naively thought the world would immediately take action to protect the environment, but nearly twenty years later, to his disappointment he found out that the situation had "deteriorated far beyond anything Carson had described."¹³⁵

Non-composers also recognize the power of music as a communicative tool. Instead of displaying placards and slogans, Greenpeace opted to use music to communicate. Activist Anna Jones explains, "People are moved by different things. Some people are moved by words and some people are moved by music."¹³⁶ Toru Takemitsu's *Toward the Sea* for alto flute and guitar (1981) was a commission by Greenpeace as part of the "Save the Whales" campaign.¹³⁷ More recently in August of 2015, Greenpeace organized a month-long musical protest against Shell's plans to drill for oil in the Arctic, as it would only accelerate climate change in the Arctic.¹³⁸ Different arrangements (e.g. from string quartets to 10-piece brass bands) of Greenpeace's

¹³³ "The Sinking of the Rainbow Warrior: Teacher Resource Kit/Research and Questions by Anne Power," Colin Bright: Represented Artist, *Australian Music Centre*. Accessed August 20, 2016.

¹³⁴ Martin Wesley-Smith, "Martin Wesley-Smith's *Who Killed Cock Robin?*" *Journal Articles, Resonate Magazine*, December 18, 2009. Accessed August 20, 2016. <http://www.australianmusiccentre.com.au/article/martin-wesley-smith-s-em-who-killed-cock-robin-em>.

¹³⁵ Ibid.

¹³⁶ Damien Gayle, "Greenpeace performs Arctic requiem in effort to touch hearts over Shell drilling," *The Guardian*, August 3, 2015. Accessed October 10, 2016. <https://www.theguardian.com/environment/2015/aug/03/greenpeace-adds-a-new-string-to-its-bow-with-musical-protest-at-shell>

¹³⁷ Matthew Gould, "Toward the Sea of Toru Takemitsu," *Ex Tempore*. Accessed October 10, 2016. <http://www.ex-tempore.org/takemitsu/takemitsu.htm>

¹³⁸ Gayle, "Greenpeace performs Arctic requiem in effort to touch hearts over Shell drilling," August 3, 2015.

Requiem for Arctic Ice, a multi-authored work by Nehemiah Luckett, Chris Garrard, John Metcalfe, and Rachel Portman, were performed outside of Shell's London Headquarters.¹³⁹ In June of 2016, Italian composer and pianist, Ludovico Einaudi performed his *Elegy for the Arctic* on a floating platform in the middle of the Arctic Ocean for Greenpeace's "Save the Arctic" campaign.¹⁴⁰ Einaudi's composition captured the essence of eight million voices from around the globe expressing their concerns for destructions in the Arctic. Greenpeace sent a message that the Arctic is worth protecting and not to be risked for short-term profit by publishing a video recording of Einaudi's performance with visible falling glaciers in the background.¹⁴¹

Rapid Fire for solo flute (1992) by Jennifer Higdon is less direct in activism than the previous examples. Without exerting itself as a representation of a specific movement, *Rapid Fire* exploits flute extended techniques to portray the anger and violence in city life, focusing on the innocent young who had to suffer the unfortunate consequences.¹⁴² The intense six-minute solo showcases the violent and harsh capabilities of the instrument and the performer. It is full of flutter tongue, overtones, multiphonics, pitch bends, glissandi, trills, in addition to loud dynamics and harsh tonguing throughout. The piece concludes with a "snap-n-pop" object thrown to the floor to create a gun shot effect. Like Crumb's approach, fear and terror are expressed through the music to allow listeners to reflect on the problem and think for themselves. A few examples below are compositions that follow the "less direct" approach, but nonetheless convey messages concerning issues that can affect our future living environments:

¹³⁹ Greenpeace UK, "Requiem for Arctic Ice," *Soundcloud*. Accessed October 10, 2016.
<https://soundcloud.com/greenpeaceuk-1/sets/requiem-for-arctic-ice>

¹⁴⁰ Elvira Jiménez and Erlend Tøllnes, "Ludovico Einaudi performs with 8 million voices to save the Arctic," *Greenpeace*, June 20, 2016. Accessed October 10, 2016.
<http://www.greenpeace.org/international/en/news/Blogs/makingwaves/Ludovico-Einaudi-grand-piano-Arctic-ocean-8-million-voices/blog/56808/>

¹⁴¹ Ibid.

¹⁴² Jennifer Higdon, "Program Notes: *Rapid Fire*," *Jennifer Higdon Inc.* Accessed August 20, 2016.
<http://www.jenniferhigdon.com/pdf/program-notes/rapid-fire.pdf>

- 1) *In the White Silence* (1998) by John Luther Adams. The title refers to the Alaskan landscapes, and it is about the Alaskan wilderness that had been Adams' home since the late 1970s.¹⁴³
- 2) *Pastoral Symphony* (2000) by Brett Dean. According to the composer, "[it] is about glorious birdsongs, the threat that it faces, the loss, and the soulless noise that we are left with when they are all gone."¹⁴⁴
- 3) *Antarctic Symphony* (2001) by Peter Maxwell Davies. It was inspired by Davies' trip to the Antarctic between December 1997 and January 1998, for which he kept daily diary entries of his adventures.¹⁴⁵
- 4) *Vatnajökull* (2003) by Chris Watson. This is the third and final soundtrack from Watson's album, *Weather Report*, which features soundscapes of nature. *Vatnajökull* is a collage of pre-recorded sounds from an Icelandic glacier and lets listeners sonically experience a part of our world that is quickly fading.¹⁴⁶

Music today is a synthesis of the past. Crumb's unique way of blending ideology in a special sound world sets him apart from his contemporaries.¹⁴⁷ In the article, "Music: Does It Have a Future?" written by Crumb in 1980, he states that he is optimistic about the future of music. He continues,

"I frequently hear our present period described as uncertain, confused, chaotic. The two decades from 1950 to 1970 have been described as "the rise and fall of the musical avant-garde," the implication being that nothing at all worthwhile was accomplished during those years. I have even heard the extremely pessimistic idea expressed by some

¹⁴³ John Luther Adams, "John Luther Adams: In the White Silence," *New World Records*. Accessed October 10, 2016. http://www.newworldrecords.org/album.cgi?rm=view&album_id=80600

¹⁴⁴ Brett Dean, "Dean, Brett: Pastoral Symphony," *Boosey & Hawkes*. Accessed October 10, 2016. <http://www.boosey.com/cr/music/Brett-Dean-Pastoral-Symphony/3968>

¹⁴⁵ Peter Maxwell Davies, "Max's Antarctic Diary," *The Official Website for Sir Peter Maxwell Davies*. Accessed October 10, 2016. http://www.maxopus.com/resources_detail.aspx?key=46

¹⁴⁶ François Couture, "Chris Watson: Weather Report," *All Music*. Accessed October 10, 2016. <http://www.allmusic.com/album/weather-report-mw0000405079>

¹⁴⁷ George Crumb, "Music: Does It Have a Future?" *George Crumb: Profile of a Composer*, 19.

composers that “*Comædia finita est*” – all possible combinations have by now been exhausted and music has finally reached a dead end. My own feeling is that music can never cease evolving; it will continually reinvent the world in its own terms. Perhaps two million years ago the creatures of a planet in some remote galaxy faced a musical crisis similar to that which we earthly composers face today. Is it possible that those creatures have existed for two million years without *new* music? I doubt it.”¹⁴⁸

His profound respect for music regarding its communicative capacities allowed him to maximize his creativity, as well as help motivate the next generation of composers to explore the endless possibilities of music.

¹⁴⁸ Ibid.

CHAPTER 6

CONCLUSION

Crumb asserts that composers should start each new work with an idea of the overall ethos they want to convey. He prefers the term “ethos” rather than “mood” as it represents more accurately the “essential, innate character of a piece of music.”¹⁴⁹ According to Crumb, “music is analyzable only on the most mechanistic level,” implying that you cannot understand a piece in its entirety simply by dissecting it. This notion is akin to thinking you can understand the soul by charting the human body. In his mind, the sum is greater than its parts. Indeed, Crumb set out to create deeper meaning with the pieces he wrote often depicting apparent polarities and ironies in order to move and transform others.¹⁵⁰

Crumb does not explicitly state the message he wants to convey; rather, he opts to subtly express his idealism by interweaving his ideas using his inventive sounds and additional theatrical and poetic elements.¹⁵¹ As Suzanne Mac Lean describes, Crumb’s compositional style resembles “the manner of a Wagner *Gesamtkunstwerk*, but on a smaller scale.”¹⁵² His music transcends the auditory features and guides the visual, the intellectual, and the philosophical elements of the aesthetic experience.¹⁵³ Crumb associates certain musical elements with certain ideas, like a *leitmotif*; the reoccurrences of these ideas indicate its continuing existence as well as serving as a thematic element. Although listeners are likely to respond to Crumb’s music differently, understanding the social changes surrounding his three chamber works composed

¹⁴⁹ “Interview: Crumb/Shuffett,” *George Crumb: Profile of a Composer*, 35.

¹⁵⁰ Lean, “George Crumb, American Composer and Visionary,” *George Crumb: Profile of a Composer*, 20.

¹⁵¹ *Ibid.*

¹⁵² *Ibid.*, 25.

¹⁵³ *Ibid.*, 25.

between 1969-1971 will serve as a guide for unraveling the unspoken significance of these compositions.

The commonality between *Night of the Four Moons* (1969), *Black Angels* (1970), and *Vox Balaenae* (1971) is Crumb's optimism in his messages. Although all three works embody elements of pessimism to represent Crumb's concerns, he concludes each piece on a note of hope. The contrast of polarities and ironies represent Crumb's reasoning, inviting his listeners to form their own conclusions as to what could happen if the matter continues to worsen, as opposed to explicitly imply a fixed idea on what will happen. Crumb's music is not a representation of social activism, but a product of social activism of the mid-twentieth century. Lean agrees that these three chamber works provide direct social commentary as they coincided with three major U.S. events: the Apollo 11 flight, the Vietnam War, and ecological conservation.¹⁵⁴ As someone emotionally affected by these events, Crumb turned his observations into meaningful music that we can ponder for the sake of our children's future. In Crumb's words:

“When I look around at the world today I couldn't prove that things are necessarily taking a turn for the better. But I have always been fascinated by the idea of children somehow giving new meaning or regenerating the earth, not only in the physical sense, but in the spiritual sense. That is our hope, and in sharing it I guess I am basically an optimist.”¹⁵⁵

Lean points out that many contemporary composers after the early twentieth century admitted that they were not concerned with conveying anything but sound. This is in stark contrast to Crumb, who believed completely in the idea that music is a “substance endowed with magical properties” and that it has the ability to communicate powerful messages about life and

¹⁵⁴ Ibid., 23.

¹⁵⁵ William Bender, “Star-Child: Innocence and Evil,” *Time Magazine* (May 16, 1977).

the world around us.¹⁵⁶ Crumb states, “Although technical discussions are interesting to composers, I suspect that the truly magical and spiritual powers of music arise from deeper levels of our psyche.”¹⁵⁷

The somewhat open-ended conclusions in these works allow listeners to respond to the music freely. While elements of polarities and ironies that consistently appear may be interpreted as pessimism, they are Crumb’s musical way of playing devil’s advocate to guide the listeners’ thoughts. Crumb expressed his emotions and views musically on three major U.S. events between 1969 and 1971, and the shared message is the desire to change and cultivate a better environment for the sake of our children and future. In this regard, Crumb and his music represent optimism, because without hope and faith, the inclination to improve would not exist. When Shuffett asked Crumb what he would say to someone listening to his music one hundred years from now, he replied:

“Well, first of all, I would be astonished if in a hundred years from now anybody would be the least bit concerned about my music [laughing]. We all know that time is merciless and inexorable. And if it is true – as some of our more hostile critics imply – that we are a race of pygmy composers compared to the giants of the early twentieth-century, then perhaps we are condemned to be a “transitional period” – and to be totally forgotten. I would be more than happy if my music can communicate something here and now.”¹⁵⁸

Indeed, the “here and now” that he refers to has passed into history, but although the current events that inspired these three pieces are old news, there are still lessons to be learned by our society that is seemingly determined to make the same mistakes of the past.

¹⁵⁶ Lean, “George Crumb, American Composer and Visionary,” *George Crumb: Profile of a Composer*, 20.

¹⁵⁷ Crumb, “Music: Does It Have a Future?” *George Crumb: Profile of a Composer*, 19.

¹⁵⁸ “Interview: Crumb/Shuffett,” *George Crumb: Profile of a Composer*, 37.

APPENDIX

“Dos Lunas de Tarde” (“Two Evening Moons”) from Lorca’s collection *Canciones (Songs)*, 1921-24. Crumb extracted lines 1 and 2 of this poem for the first movement of *Night of the Four Moons*. Writer Tom Holmes provided the following English translation:¹⁵⁹

[Spanish]	[English Translation]
“Dos Lunas de Tarde”	“Two Evening Moons”
1 (A Laurita, amiga de mi hermana)	<i>I (to Laurita, my sister’s friend)</i>
La luna está muerta, muerta; pero resucita en la primavera.	<i>The moon is dead, is dead, but in spring is resurrected.</i>
Cuando en la frente de los chopos se rice el viento del Sur.	<i>When the fronts of the poplars rustle in the southern wind.</i>
Cuando den nuestros corazones su cosecha de suspiros.	<i>When our hearts relinquish their harvest of sighs.</i>
Cuando se pongan los tejados sus sombreritos de yerba.	<i>When rooftops wear their grass sombreros.</i>
La luna está muerta, muerta; pero resucita en la primavera.	<i>The moon is dead, is dead, but in spring is resurrected.</i>
2 (A Isabelita, mi hermana)	<i>2 (to Isabelita, my sister)</i>
La tarde canta una <<berceuse>> a las naranjas.	<i>The evening sings a lullaby to oranges.</i>
Mi hermanita canta: <<La tierra es una naranja>>.	<i>My sister sings: “The earth is an orange.”</i>
La luna llorando dice: <<Yo quiero ser una naranja>>.	<i>The crying moon says: “I want to be an orange.”</i>
No puede ser, hija mía, aunque te pongas rosada. Ni siquiera limoncito. ¡Qué lástima!	<i>You cannot be, my child, even if you become a rose. Not even a little lemon. Oh, what a pity it is!</i>

¹⁵⁹ Tom Holmes, “Federico García Lorca’s *Dos Lunas De Tarde*” (A Translation),” *The Line Break*, July 9, 2013. Accessed April 21, 2016, <https://thelinebreak.wordpress.com/2013/07/09/federico-garcia-lorcas-dos-lunas-de-tarde-a-translation/>

“La Luna Asoma” (“The Looming Moon”) from Lorca’s *Canciones de Luna* in the *Canciones, 1921-1924* collection. Crumb extracted lines 5-8 of this poem for the second movement of *Night of the Four Moons*. Writer Tom Holmes provided the following English translation:¹⁶⁰

[Spanish]	[English Translation]
“La Luna Asoma”	“The Looming Moon”
Cuando sale la luna se pierden las campanas y aparecen las sendas impenetrables.	When the moon rises bells fade and impenetrable paths appear.
Cuando sale la luna, el mar cubre la tierra y el corazón se siente isla en el infinito.	When the moon rises, the ocean covers the earth and the heart feels as an island within infinity.
Nadie come naranjas bajo la luna llena. Es preciso comer fruta verde y helada.	No one eats oranges under the full moon. One must eat green fruit and ice.
Cuando sale la luna de cien rostros iguales, la moneda de plata solloza en el bolsillo.	When the moon rises with his hundred identical faces, the silver coin within his pocket weeps.

Lorca’s sonnet, “Adán” (“Adam”). Crumb extracted lines 12-14 of this sonnet for the third movement of *Night of the Four Moons*. Writer Marcos Soriano provided the following English translation:¹⁶¹

[Spanish]	[English Translation]
“Adán”	“Adam”
Arbol de sangre moja la manana por donde gime la recién parida. Su voz deja cristales en la herida y un grafico de hueso en la ventana.	A tree of blood wets the dawn where the newborn woman moans. Her voice leaves glass in the wound, and in the window, a graphic of bone.

¹⁶⁰ Tom Holmes, “Federico García Lorca’s *La Luna Asoma*” (A Translation),” *The Line Break*, July 7, 2013. Accessed April 21, 2016, <https://thelinebreak.wordpress.com/2013/07/07/federico-garcia-lorcas-la-luna-asoma-a-translation/>

¹⁶¹ Marcos Soriano, “Lorca’s *Adam*,” *Notes from Normalcy*, September 21, 2010. Accessed April 21, 2016, <http://notesfromnormalcy.blogspot.com/2010/09/lorcas-adam.html>

Mientras la luz que viene fija y gana
blancas metas de fabula que olvida
el tumulto de venas en la huida
hacia el turbio frescor de la manzana.

Adán suena en la fiebre de la arcilla
un nino que se acerca galopando
por el doble latir de su mejilla.

Pero otro Adán oscuro seta sonando
nuestra luna de piedra sin semilla
donde el nino de luz se ira quemando.

*Meanwhile, the light comes steady, gaining
fabled white goals, which forget
the tumult of veins in flight
toward the turbid chill of the apple.*

*Adam dreams, in the fever of clay,
of a boy who comes galloping near
by the doubled pulse in his cheek.*

*But another, darker Adam is dreaming
a neutered, a stone moon without seeds
where the boy of light will go burning.*

“Romance de la Luna, Luna” (“Romance of the Moon, Moon”) from Lorca’s *Gypsy Ballads* (1924). Crumb extracted lines 9-32 of this poem for the fourth movement of *Night of the Four Moons*. Dr. David King Loughran provided the following English translation:¹⁶²

[Spanish]

[English Translation]

“Romance de la Luna, Luna”

“Romance of the Moon, Moon”

La luna vino a la fragua
con su polisón de nardos.
El niño la mira mira.
El niño la está mirando.

*The moon came to the forge
wearing her bustle of nards.
The child stares and stares at her.
The child keeps staring on.*

En el aire conmovido
mueve la luna sus brazos
y enseña, lúbrica y pura,
sus senos de duro estaño.

*In the agitated air
the moon moves her arms
and revealing, lubricious and pure,
her breasts, tin and hard.*

Huye luna, luna, luna.
Si vinieran los gitanos,
harían con tu corazón
collares y anillos blancos.

*Run away, moon, moon, moon!
If the gypsies find where we are
white necklaces and rings
they’ll make of your heart.*

Niño déjame que baile.
Cuando vengan los gitanos,
te encontrarán sobre el yunque
con los ojillos cerrados.

*Little boy, let me dance.
When the gypsies come,
on the anvil they’ll find you
with your little eyes shut.*

Huye luna, luna, luna,

Run away, moon, moon, moon,

¹⁶² David K. Loughran, “Translation of *Romance de la Luna, Luna*,” *Dan*. Accessed June 16, 2016, http://dan.drydog.com/helen/romance_de_la_luna.html

que ya siento sus caballos.
Niño déjame, no pises,
mi blancor almidonado.

El jinete se acercaba
tocando el tambor del llano.
Dentro de la fragua el niño,
tiene los ojos cerrados.

Por el olivar venían,
bronce y sueño, los gitanos.
Las cabezas levantadas
y los ojos entornados.

¡Cómo canta la zumaya,
ay como canta en el árbol!
Por el cielo va la luna
con el niño de la mano.

Dentro de la fragua lloran,
dando gritos, los gitanos.
El aire la vela, vela.
el aire la está velando.

*already I hear a horse.
Little boy, let me be, don't step on
my whiteness of starch.*

*Beating the drum of the plains
the horseman approached.
Inside the forge
the child's eyes are closed.*

*Through the olive grove they came,
gypsies half bronze and half dream.
Their heads lifted up high,
eyes closed as in sleep.*

*How the owl is singing,
from its tree, how it hoots!
With a child by the hand
through the sky goes the moon.*

*Inside the forge,
the gypsies cry and scream.
The air keeps on in vigil.
The air its vigil keeps.*

BIBLIOGRAPHY

- Adams, John Luther. "John Luther Adams: In the White Silence." *New World Records*. Accessed October 10, 2016.
http://www.newworldrecords.org/album.cgi?rm=view&album_id=80600
- Australian Music Centre. "Climate Change: Trio." Colin Bright: Represented Artists. Accessed August 20, 2016. <http://www.australianmusiccentre.com.au/work/bright-colin-climate-change>
- Australian Music Centre. "David Holyoake: Associate Artist." Represented Artists. Accessed August 20, 2016. <http://www.australianmusiccentre.com.au/artist/holyoake-david>
- Australian Music Centre. "The Sinking of the Rainbow Warrior: Teacher Resource Kit/Research and Questions by Anne Power." Colin Bright: Represented Artist. Accessed August 20, 2016. <http://www.australianmusiccentre.com.au/product/the-sinking-of-the-rainbow-warrior-teacher-resource-kit>
- Baker, George Robert. "Post-Traumatic Stress Disorder Differences Between Theater and Non-Theater Veterans of the Vietnam Era: Service, Race, and Symptom Implications (Ground Troop)." PhD diss., United States International University, 1986. Accessed July 18, 2016.
<http://ezproxy.library.unlv.edu/login?url=http://search.proquest.com/docview/303442589?accountid=3611>
- Becker, Stephanie. "Cold War in Asia: China's Involvement in the Korean and Vietnam War." MA thesis, University of Kansas, 2015. Accessed July 18, 2016.
<http://ezproxy.library.unlv.edu/login?url=http://search.proquest.com/docview/1695821181?accountid=3611>
- Bender, William. "Star-Child: Innocence and Evil." Music. *Time Magazine*, May 16, 1977. Accessed August 16, 2016.
<http://content.time.com/time/magazine/article/0,9171,918981,00.html>
- Chapman, Jr., Hugh H. "Tow Poetic Techniques: Lorca's *Romance de luna, luna* and Goethe's *Erkönig*." *Hispania*, vol. 39, no. 4 (Dec. 1956): 450-455. Accessed June 16, 2016.
<http://www.jstor.org/stable/336065>
- Cobb, Carl. Federico Garcia Lorca. New York: Twayne Publishers, 1967.
- Cohen, David. *George Crumb: A Bio-Bibliography*. Westport, CT: Greenwood Press, 2002.
- Couture, François. "Chris Watson: Weather Report." *All Music*. Accessed October 10, 2016.
<http://www.allmusic.com/album/weather-report-mw0000405079>

- Crumb, George. "A Conversation with George Crumb." Interviewed by Anna Sale, *Outlook*, aired December 20, 2007, on West Virginia Public Broadcasting. Accessed on November 11, 2014, <http://youtu.be/5xo8SHjTxpc>
- Crumb, George. "Black Angels." Recorded by The Miró Quartet, October 18 and 19, 2002. On *Complete Crumb Edition, Vol. 7*. Bridge Records BRIDGE 9139, 2003. CD.
- Crumb, George. *An Idyll for the Misbegotten*. New York: Edition Peters, 1986.
- Crumb, George. *Black Angels (Images 1)*. New York: Edition Peters, 1971.
- Crumb, George. *Night of the Four Moons*. New York: Edition Peters, 1971.
- Crumb, George. *Vox Balaenae for Three Masked Players*. New York: Edition Peters, 1972.
- David Holyoake. Accessed August 18, 2016. <http://www.davidholyoake.com/>
- Davies, Peter Maxwell. "Max's Antarctic Diary." *The Official Website for Sir Peter Maxwell Davies*. Accessed October 10, 2016. http://www.maxopus.com/resources_detail.aspx?key=46
- Dean, Brett. "Dean, Brett: Pastoral Symphony." *Boosey & Hawkes*. Accessed October 10, 2016. <http://www.boosey.com/cr/music/Brett-Dean-Pastoral-Symphony/3968>
- Gayle, Damien. "Greenpeace performs Arctic requiem in effort to touch hearts over Shell drilling." *The Guardian*, August 3, 2015. Accessed October 10, 2016. <https://www.theguardian.com/environment/2015/aug/03/greenpeace-adds-a-new-string-to-its-bow-with-musical-protest-at-shell>
- Geary, Daniel. "Environmental Movement." Dictionary of American History. 2003. *Encyclopedia.com*. Accessed April 19, 2016. http://www.encyclopedia.com/topic/Environmental_Movement.aspx
- Gillespie, Don, ed. *George Crumb: Profile of a Composer*. New York: C. F. Peters, 1986.
- Gould, Matthew. "Toward the Sea of Toru Takemitsu." *Ex Tempore*. Accessed October 10, 2016. <http://www.ex-tempore.org/takemitsu/takemitsu.htm>
- Greenpeace UK. "Requiem for Arctic Ice." *Soundcloud*. Accessed October 10, 2016. <https://soundcloud.com/greenpeaceuk-1/sets/requiem-for-arctic-ice>
- Greenpeace USA. Accessed February 24, 2016. <http://www.greenpeace.org/usa/>
- Higdon, Jennifer. "Program Notes: *Rapid Fire*." Jennifer Higdon Inc. Last modified 2016. Accessed August 20, 2016. <http://www.jenniferhigdon.com/pdf/program-notes/rapid-fire.pdf>

- History. "Vietnam War History." Vietnam War. Accessed July 19, 2016.
<http://www.history.com/topics/vietnam-war/vietnam-war-history>
- History. "Vietnam War Protests." Vietnam War. Accessed April 15, 2016.
<http://www.history.com/topics/vietnam-war/vietnam-war-protests>
- History. "The Space Race." Topics. Last modified 2016. Accessed July 13, 2016.
<http://www.history.com/topics/space-race>
- Holmes, Tom. "Federico García Lorca's "La Luna Asoma" (A Translation)," *The Line Break*, July 7, 2013. Accessed April 21, 2016.
<https://thelinebreak.wordpress.com/2013/07/07/federico-garcia-lorcas-la-luna-asoma-a-translation/>
- Holyoake, David. "Extinct Birds and contemporary music as activism: an invitation." Feature Articles. *Resonate Magazine*, March 19, 2014. Accessed on August 18, 2016.
<http://www.australianmusiccentre.com.au/article/em-extinct-birds-em-and-contemporary-music-as-activism-an-invitation>
- Jiménex, Elvira, and Erlend Tellnes. "Ludovico Einaudi performs with 8 million voices to save the Arctic." *Greenpeace*, June 20, 2016. Accessed October 10, 2016.
<http://www.greenpeace.org/international/en/news/Blogs/makingwaves/Ludovico-Einaudi-grand-piano-Arctic-ocean-8-million-voices/blog/56808/>
- Judy Collins Website. Accessed October 26, 2016. <http://www.judycollins.com/>
- Kim, Ji Hun. "Compositional Procedures in George Crumb's String Quartet *Black Angels* and Composition of an Original String Quartet *Threnody for Victims of 9.11*" DMA diss., New York University, 2002. Accessed April 27, 2016,
<http://ezproxy.library.unlv.edu/login?url=http://search.proquest.com/docview/305510423?accountid=3611>
- Launius, Roger D. "Public opinion polls and perceptions of US human spaceflight." *Space Policy*, 19 (2003): 163-175. Accessed July 13, 2016.
https://www.academia.edu/179045/Public_Opinion_Polls_and_Perceptions_of_US_Human_Spaceflight
- Loughran, David K. "Translation of Romance de la Luna, Luna." *Dan*. Accessed June 16, 2016.
http://dan.drydog.com/helen/romance_de_la_luna.html
- MacKay, John. "An Analysis of Musical Time in Selected Works by George Crumb." MA thesis, McGill University, 1979. Accessed June 30, 2016,
<http://ezproxy.library.unlv.edu/login?url=http://search.proquest.com/docview/302996915?accountid=3611>

- Madrigal, Alexis C. "Moondoggle: The Forgotten Opposition to the Apollo Program." *The Atlantic*, September 12, 2012. Accessed July 13, 2016.
<http://www.theatlantic.com/technology/archive/2012/09/moondoggle-the-forgotten-opposition-to-the-apollo-program/262254/>
- McGee, William James. "An Expanded Concept of Timbre and Its Structural Significance, with Timbral Analysis of George Crumb's *Night of the Four Moons*." PhD diss., University of Arizona, 1982. Accessed April 14, 2016,
<http://ezproxy.library.unlv.edu/login?url=http://search.proquest.com/docview/303058789?accountid=3611>
- Mohr, Charles. "History and Hindsight: Lessons from Vietnam." Special To The New York Times, *New York Times*, 1923 – Current File. New York: New York, April 30, 1985: A1. Accessed July 18, 2016.
<http://ezproxy.library.unlv.edu/login?url=http://search.proquest.com/docview/111272539?accountid=3611>
- MUSAIC. "Crumb: Vox Balaenae (Voice of the Whale)." Videos. Last modified 2016. Accessed December 5, 2015. <http://musaic.nws.edu/videos/crumb-vox-balaenae-voice-of-the-whale>
- National Aeronautics and Space Administration (NASA). Last modified Feb. 3, 2016. Accessed July 13, 2016. <http://www.nasa.gov/>
- Pareles, Jon. "Pete Seeger, Champion of Folk Music and Social Change, Dies at 94." *The New York Times*, January 28, 2014. Accessed October 13, 2016.
http://www.nytimes.com/2014/01/29/arts/music/pete-seeger-songwriter-and-champion-of-folk-music-dies-at-94.html?_r=0
- Perry, Simona L., Douglas P. DeMaster, and Gregory K. Silber. "The Great Whales: History and Status of Six Species Listed as Endangered Under the U.S. Endangered Species Act of 1973." *Marine Fisheries Review*, vol. 61, no. 1 (1999): 1-74. Accessed August 4, 2016.
<http://aquaticcommons.org/9797/>
- Porter, Gareth. "Explaining the Vietnam War: Dominant and Contending Paradigms." *Making Sense of the Vietnam Wars*. New York: Oxford University Press, 2008.
- Public Broadcasting Service (PBS). "The Song of the Whale." Oceans. Last modified 2016. Accessed August 3, 2016. <http://www.pbs.org/earth-a-new-wild/episode-oceans/whales/>
- Rocha, Robert C., Phillip J. Clapham, and Yulia V. Ivashchenko. "Emptying the Oceans: A Summary of Industrial Whaling Catches in the 20th Century." *Marine Fisheries Review*, vol. 76, no. 4 (2014): 37-48. Accessed August 4, 2016.
<http://ezproxy.library.unlv.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=101815659&site=ehost-live>

- Shuffett, Robert V. "The Music, 1971-1975, of George Crumb: A Style Analysis." DMA diss., Peabody Institute of John Hopkins University, 1979. Accessed May 10, 2015. <http://ezproxy.library.unlv.edu/login?url=http://search.proquest.com/docview/302997935?accountid=3611>
- Sisario, Ben, Alexandra Alter, and Sewell Chan. "Bob Dylan Wins Nobel Prize, Redefining Boundaries of Literature," *The New York Times*, October 13, 2016. Accessed October 13, 2016. <http://www.nytimes.com/2016/10/14/arts/music/bob-dylan-nobel-prize-literature.html>
- Soriano, Marcos. "Lorca's "Adam"," *Notes from Normalcy*, September 21, 2010. Accessed April 21, 2016. <http://notesfromnormalcy.blogspot.com/2010/09/lorcas-adam.html>
- Spanish Books. Last modified 2011. Accessed June 27, 2016. <http://www.classicspanishbooks.com/>
- Strauss, Richard. *Also Sprach Zarathustra, op. 30*. Mineola, NY: Dover, 2006.
- Strickland, Edward. *American Composers: Dialogues on Contemporary Music*. Bloomington: Indiana University Press, 1991.
- The Ocean Alliance. Accessed February 24, 2016. <http://www.whale.org/>
- The Official George Crumb Website. Accessed May 10, 2015. <http://www.georgecrumb.net/>.
- The Voyage of the Odyssey. Accessed February 24, 2016. <http://www.pbs.org/odyssey/index.html>
- Torvinen, Juha. "Composing, music and society at large." Music Research. *Finnish Music Quarterly*. Last modified 2015. Accessed August 18, 2016. <http://www.fmq.fi/2015/10/composing-music-and-society-at-large/>
- Tully, John Day, Matthew Masur, and Brad Austin, eds. "Introduction: Key Questions and Enduring Debates." *Understanding and Teaching the Vietnam War*. Madison, WI: The University of Wisconsin Press, 2013.
- Unterberger, Richie. "Liner Notes for Judy Collins's Whales and Nightingales." Music Reviews – Liner notes I've written for various Collectors' Choice reissues. *Richie Unterberger Website*. Last modified 2010. Accessed August 4, 2016. <http://www.richieunterberger.com/whales.html>
- Voices of the Sea. "Why Do Humpback Whales Sing?" Humpback Song. Last modified 2011. Accessed April 30, 2016. http://cetuc.ucsd.edu/voicesinthesea_org/videos/videoHumpbackSong.html

Wesley-Smith, Martin. "Martin Wesley-Smith's *Who Killed Cock Robin?*" Journal Articles. *Resonate Magazine*, December 18, 2009. Accessed August 20, 2016.
<http://www.australianmusiccentre.com.au/article/martin-wesley-smith-s-em-who-killed-cock-robin-em>

Williamson, John. *Strauss: Also sprach Zarathustra*. New York: Cambridge University Press, 1993.

CURRICULUM VITAE

Graduate College
University of Nevada, Las Vegas

Yi Ling Tsai
Email: lynntsai62@gmail.com

Degrees:

Bachelor of Music, Music Performance, 2006
Columbus State University

Master of Arts, Music Performance, 2008
New York University

Dissertation Title:

George Crumb's Personal Response to the Golden Age of Social Activism: *Night of the Four Moons, Black Angels*, and *Vox Balaenae*

Dissertation Examination Committee:

Chairperson: Jennifer Grim, D.M.A.
Committee Member: Cheryl Taranto, Ph.D.
Committee Member: William Bernatis, D.M.A.
Committee Member: Timothy Hoft, D.M.A.
Graduate Faculty Representative: Margot Mink Colbert, B.S.