

Listening to the Last Frontier:  
How Climate Change Has Affected the Music of John Luther Adams  
and Matthew Burtner

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## Abstract

Music has always been influenced by nature. Even before the Middle Ages, the environment in which a person resided has had a profound effect on their creative output. As a result, composers have often sought to recreate their landscape through their compositions. However, the limitations of musical instruments forced composers to find creative ways of evoking such landscapes: flutes often became birds, strings became the air, and horns might represent the rising and setting of the sun.

This thesis concerns the composers John Luther Adams and Matthew Burtner, both of whom have spent significant periods of their lives living and working in Alaska. The influence of Alaska's climate and landscapes continues to be a source of inspiration for both composers, each of whom have dramatically different approaches to musical expression. Both composers have since become well-known for their musical interpretation of nature, showcasing the massive scale of the natural world while simultaneously highlighting how minute actions from humans have dramatic consequences.

Unfortunately, the rapid effects of climate change over the past several decades have affected all landscapes, not just Alaska's. For both composers, their writing processes have evolved to favor more introspective consideration of the relationship between humans and nature. This thesis seeks to contextualize each composer by examining selected works to demonstrate this shift.

## Acknowledgments

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## Chapter One:

### Understanding the Connections Between Humans and Nature

Alaska. A place affectionately referred to as “America’s Last Frontier” because of its distance from the continental United States and its harsh, near mythic, landscape. A place teeming with wildlife and unspoiled natural beauty. A place rich with culture and indigenous lore. A place so big it could fit all of Texas, California, and Montana inside its borders, and still have room to spare. A place whose location is so far reaching, that the International Date Line is warped to accommodate it. This place has been admired, studied and traversed for decades. It has been the subject of poetry, literature, film and music, all of which praise its natural splendor and still manage to not do it enough justice.

Alaska has also been the home of two composers who have made significant contributions to Western music over the last half-century. John Luther Adams (born 1953) and Matthew Burtner (born 1971) have spent a considerable amount of time living in the Alaskan frontier. Inspired by their surroundings, they have almost exclusively composed works that evoke, replicate, or otherwise honor landscapes in Alaska and beyond. Both composers have an uncanny way of depicting their environments in literal and abstract ways and in doing so, have encouraged audiences to challenge their conceptions of what a landscape *could* or *should* sound like.

Adams first came to Alaska in the early 1970s and found in it a refuge from the bustling streets of Los Angeles. Around the same time, Burtner was born and raised in a small Alaskan village, immediately nurturing a relationship to his environment that would be instilled in him forever. While Adams spent his days hiking and listening to the sounds of the tundra, Burtner traversed the globe and learned how new electronic mediums could breed new sounds or uncover

hidden ones. Both studied traditional Western music practices and have subsequently modified its parameters for their own musical purposes. Through music, they construct and inhabit sonic landscapes that continue to push the limits of what is possible with sound.

While neither composer currently resides in Alaska, they continue to be inspired by their surrounding environments, generating new compositional material from the landscapes in which they live. Consequently, both composers have been vocal advocates with regard to climate change and its widespread devastation, especially in Alaska. Adams cites climate change as being a major reason for leaving while Burtner actively programs performances and lectures on ecological initiatives. While both composers have been outspoken about the impact of climate change, this thesis's goal is to examine the impacts of climate change on Adams's and Burtner's compositional output.

### **History of Environmental Sound in Music**

Connections between sound and nature have been explored by humans since the dawn of ancient civilizations. Ethnomusicologists like Steven Feld and Micky Hart (of Grateful Dead fame) have documented many of these connections as they apply to the Kaluli people of Papua New Guinea and percussion instruments of the early Ethiopians.<sup>1</sup> In Western civilization, ideas of musical mimesis, or music as a form of imitation, are presented in writings by Aristotle.<sup>2</sup> Musical depictions of nature begin to appear as early as 1528 with Janequin's *Chant des oiseaux*.

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<sup>1</sup> For example, Steven Feld, "Flow like a Waterfall: The Metaphors of Kaluli Discourse," *Yearbook for Traditional Music* 13 (1981); Feld, "Communication, Music, and Speech about Music," *Yearbook for Traditional Music* 16 (1984); Feld, "Sound Structure as Social Structure," *Ethnomusicology* 28, no. 3 (Sept. 1984); Feld "Aesthetics as Iconicity of Style; or, 'Lift-up-over'Sounding: Getting into the Kaluli Groove," *Yearbook for Traditional Music* 20 (1988); Feld, *Sound and Sentiment: Birds, Weeping, Poetics, and Song in Kaluli Expression* (Duke University Press, 2012); and Mickey Hart, *Planet Drum: A Celebration of Percussion and Rhythm* (Harper San Francisco, 1996).

<sup>2</sup> Aristotle, *Poetics*, ch. 1.

(“Birdsong”).<sup>3</sup> The proliferation of music intended to evoke nature, or a particular environment continues throughout history including works like Beethoven’s *Pastoral Symphony* (1808) Debussy’s *La Mer* (1905) and Messiaen’s *Reveil des Oiseaux* (“Awakening of the Birds”) (1953). These composers managed to fit their environment within established Western compositional techniques. As Bianchi notes in his brief history of environmental sound art, “up until the twentieth century it was generally only the sounds of the natural world that were thought worthy of aesthetic appreciation.”<sup>4</sup>

As the twentieth century unfolded, new ideas emerged that reconsidered what sounds were worthy of such appreciation. One could argue that this began in earnest with Arnold Schoenberg and the “emancipation of dissonance” when all twelve tones were put on a level playing field.<sup>5</sup> Italian Futurist Luigi Russolo expanded on Schoenberg’s ideas of embracing dissonant sonorities. To him, birdsongs were not the only naturally occurring sounds worthy of musical inclusion and in his futurist manifesto, *The Art of Noises* (1913), Russolo argues that the sounds associated with urbanization and industrialization should also be recognized as sounds worthy of embracement in the Western symphony orchestra. By the early 1910s and ’20s, the world had witnessed the dramatic effects of modernization and urbanization as a result of the Industrial Revolution, in which factories sprouted up like weeds. The Industrial Revolution had a profound effect on the First World War, which endorsed more sophisticated weaponry and brutal fighting conditions. For Russolo, Italy’s new sonic palette could be manipulated for his own purposes. As a result, he cataloged all of the different sounds he heard and invented a few of his

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<sup>3</sup> Kurt Schindler, ed. “Le chant de oyseaux,” score, ca. 1906. Not Janequin’s original notation.

<sup>4</sup> Frederick Bianchi and V.J. Manzo, ed., *Environmental Sound Artists: In Their Own Words* (Oxford: Oxford University Press, 2016), xxi.

<sup>5</sup> Arnold Schoenberg, “Opinion or Insight?” in *Style and Idea*, ed. Leonard Stein, University of California Press, 1984, 258.

own noise machines (or *intonarumori*) for his own compositions. He divided the noises into six categories, based on the specific production of sound: explosions and roars, hisses and whistles, whispers and bustling, screeches and friction, percussive impacts, and the voices of humans and animals.<sup>6</sup> Russolo even developed early iterations of graphic notation to show relative direction of a pitch in place of absolute pitches.

Around this same time, perspectives on percussion instruments also began to shift. As percussionist Steven Schick notes, this shift focused from how noise was made to “how that noise was used.”<sup>7</sup> Percussion had long been used in symphonic music to reinforce time, harmonic cadences, and occasionally provide sound effects, particularly with non-pitched percussion instruments. But as Schick also notes, “composers were finding increasingly that percussion instruments were the musical and expressive equals of other instruments in the orchestra.”<sup>8</sup> Soon people began to compose music specifically for percussion. In 1927 Alexander Tcherepnin included a movement exclusively for percussion instruments in his *Symphony No. 1*. In 1929, Edgard Varèse began composing *Ionisation*, a piece for thirteen percussionists that he completed in 1931, and that opened the floodgates for composers to write pieces exclusively for percussion.

In addition to *Ionisation*, Varèse continued to cement his legacy as one of the most forward-thinking composers of the twentieth century with pieces like *Amérique* (1928) and *Déserts* (1950–54). These pieces embraced new sounds into the orchestra including additional percussion instruments and sirens. He was an early adopter of electronic music and techniques,

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<sup>6</sup> Joseph Auner, *Music in the Twentieth and Twenty-First Centuries* (New York: W.W. Norton and Company, 2013), 40.

<sup>7</sup> Steven Schick, *The Percussionist's Art: Same Bed, Different Dreams* (Rochester, NY: University of Rochester Press, 2006), 2.

<sup>8</sup> *Ibid.*

including the Theremin and tape music. His *Poème électronique* (1958) is a collection of recordings commissioned for Le Corbusier's Pavilion at the Brussels World's Fair in 1958.<sup>9</sup>

While sonically adventurous, what is unique about Varèse's output is the relationship of his music to place. Despite spending periods of his life living in Paris and Berlin, all of his compositions were composed in America, specifically New York. As he was writing *Amériques*, Varèse noted how "with my physical ears, I heard a sound kept that recurring in my dreams as a boy—a high whistling C sharp. It came to me as I worked in my West Side apartment, where I could hear all the river sounds—the lonely foghorns, the shrill peremptory whistles—the whole wonderful river symphony which moved me more than anything ever had before."<sup>10</sup> Listening to the chaotic panoply of sounds in *Amériques* easily conjures images of a bustling cityscape, punctuated at several moments by a high C sharp in the piccolo part.

Varèse had a keen understanding of music's ability to convey place in both geographical and spiritual terms. Reflecting on *Amériques*, he noted that it is not "purely geographic but as symbolic of discoveries—new worlds on earth, in the sky, or in the minds of men."<sup>11</sup> Given that this was the first piece he composed while living in America, it is no surprise that this new environment might spawn feelings of discovery for him. Varèse expands on some of these ideas in some unpublished program notes for *Déserts*:

For me, "deserts" is a highly evocative world. It suggests space, solitude, detachment. To me it means not only deserts of sand, sea, mountains and snow, of outer space of deserted city streets, not only those stripped aspects of nature that suggest barrenness and aloofness, but also the remote inner space of the mind no telescope can reach, a world mystery and essential loneliness.<sup>12</sup>

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<sup>9</sup> Phillip Husher. "Program Notes," Program notes for *Varèse's Ionisation and Amériques*, Chicago Symphony Orchestra, Pierre Boulez, Chicago: Orchestra Hall, December 7,8,9, and 12, 1995.

<sup>10</sup> Ibid.

<sup>11</sup> Ibid.

<sup>12</sup> Olivia Mattis, "Varèse's Multimedia Conception of 'Déserts,'" *The Musical Quarterly* 76, no. 4 (Winter 1992), 558.

## John Cage and the Power of Silence

Whereas Schoenberg taught us that all twelve tones could be treated equally, and Russolo encouraged an acknowledgement of noise, John Cage taught us that all *sounds* could be treated equally, including silence. As an early adopter of using found instruments, such as tin cans and crumpled paper, Cage had already established a reputation as a composer with a radical sound palette. He “prepared” a piano by placing objects inside to alter the tone and would later use the *I-Ching* to determine parameters of his music. But his most famous piece of music remains notorious for the one thing he *didn't* do in it, which was play a note. In *4'33"*, the performer approaches a piano and prepares the perform on it, but for four minutes and thirty-three seconds, they do not play a single note. While the piano may not produce any sound, the performance is filled with the ambient sounds of the audience or of the hall.

Inspired by his experience in an anechoic chamber, a room designed to produce absolute silence by not having any resonating chamber, Cage realized that true silence did not exist, because he could still hear the circulation of his blood and the electrical currents running through his nervous system. Despite some viewing *4'33"* as a prank, Cage had intended for the silence that occurred during a performance of the piece to be more profound. In a lecture presented at Darmstadt in 1958, Cage reflected on the power of silence when not employed for a specific musical goal:

Where none of these other goals is present, silence becomes something else – not silence at all, but sounds, the ambient sounds. The nature of these is unpredictable and changing. These sounds (which are called silence only because they do not form part of a musical intention) may be depended upon to exist. The world teems with them, and is, in fact, at no point free of them.<sup>13</sup>

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<sup>13</sup> John Cage, *Silence* (Middletown, CT: Wesleyan University Press, 2011), 22–23.

## R. Murray Schafer & The World Soundscape Project

While Cage may have retuned our ears to the world at large, perhaps the most significant contribution to the idea that an environment can serve an artistic purpose came when R. Murray Schafer wrote *The New Soundscape* (1968), in which he compared the world to a symphony, equating aircraft, guitars, and machinery as possible leitmotifs.<sup>14</sup> That idea does not appear as radical as *4'33"*, but where Cage remained rooted in compositional and philosophical ideas about sound and space, Schafer turned ambience and environmental sounds into an academic study. In addition to *The New Soundscape*, Schafer also published *The Book of Noise* (1970), both of which acknowledge that noise was as natural a sound as any other, but ultimately wanted to raise awareness towards careless noise pollution, calling the modern a city a “sonic battleground” in which “man is losing.”<sup>15</sup>

Schafer’s research would form the basis for “acoustic ecology,” a discipline that investigates how soundscapes can be used to articulate relationships between humans and their surroundings. He soon established the World Soundscape Project (WSP), and began working with Barry Truax and Hildegard Westerkamp to expand on their mission to study habitats through sound in an effort to learn more about how humans can interact with their environment.<sup>16</sup> This involved embarking on cross-country “recording tours” of both Canada and Europe, yielding several publications *The Vancouver Soundscape* (1973), *European Sound Diary* (1978), and *Five Village Soundscapes* (1978) as well as a bevy of accompanying recordings,

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<sup>14</sup> R. Murray Schafer, *The New Soundscape* (Ontario, Canada: Berandol Music Limited, 1968), 57-62.

<sup>15</sup> Schafer, *The Book of Noise* (Wellington, New Zealand: Price Milburn & Co. Ltd., 1970), 2.

<sup>16</sup> Barry Truax, “The World Soundscape Project,” The World Soundscape Project, Simon Fraser University, accessed November 10, 2019, <https://www.sfu.ca/~truax/wsp.html>.

many of which were published on CDs.<sup>17</sup> The recordings are kaleidoscopic collages of sounds from churches, harbors, trains, and wildlife all of which are familiar, yet distinctly belonging to their particular regions. Their collective research culminated in Schafer's book, *The Tuning of the World* (1977) and Truax's *Handbook for Acoustic Ecology* (1978), both of which are still used as reference works for students today.

Over the past century, Russolo, Varèse, and Cage have prompted various debates on the merits of noise, silence, and their respective representation in the Western canon. Schafer and the members of the WSP succeeded in not only combining aspects of each discussion into a study from which other niche disciplines exist (archeoacoustics, bioacoustics, ecoacoustics, etc.), but have in turn laid the framework for how artists, scientists, and musicians can see, hear, and record the world the around them. Many of the processes used by the WSP are still in practice today and include field recording, sonification, and site-specific methods, all of which have become art forms in their own right.

### **Field Recording**

When doing field recording, one captures the sound of an environment with a recording device. The technologies used for this practice extend back to Thomas Edison's phonograph and have since evolved into more powerful, and often more portable, digital recorders. While the act of going out "into the field" is simple enough, many sound artists and sound designers have turned the process of field recording into an art in its own right. Bernie Krause, a sound engineer known for recording wildlife, has remarked that microphones "don't have brains or eyes. They indiscriminately pick up everything within the scope of their design."<sup>18</sup> This means that field

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<sup>17</sup> Ibid.

<sup>18</sup> Bernie Krause, *The Great Animal Orchestra* (New York: Little, Brown and Company, 2012), 18.



recording requires some degree of pre-determination in order for one to capture the sounds necessary for a particular musical intention. Once recorded, there are multiple uses for the sound. Some manipulate or distort the sounds for the purposes of a composition. Pierre Schaffer, for example, manipulated pre-recorded audio to construct new compositions using a technique known as *musique concrète*.<sup>19</sup> Others treat the recording as an instrument unto itself, as in Ottorini Respighi's *Pini di Roma* (1924) or Alan Hovhaness's *And God Created Great Whales* (1970).

During and after his studies at Cal-Arts, John Luther Adams gathered field recordings of birdsongs during early morning and late evening walks. He would later refer to the recordings of these birds as his “teachers after James Tenney.”<sup>20</sup> He then attempted to “translate” their songs, not intending to create perfect transcriptions. The result became *songbirdsongs*, a collection of pieces for piccolos, ocarinas, flutes, and percussion. These pieces are the antecedent to the nature-inspired songs that would come to dominate his catalog after he moved to Alaska. For Burtner, field recordings have been utilized both as reference material and as an instrumental voice. Regardless of how the recording is ultimately used, most of the aforementioned people would agree with Burtner's statement, “The purpose of outdoor recording is not the acquisition of samples, but to hear the world and learn from it.”<sup>21</sup>

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<sup>19</sup> *Environmental Sound Artists*, xxii.

<sup>20</sup> “Meet the Composer: John Luther Adams,” hosted by Nadia Sirota, *Meet the Composer*, on WNYC, November 16, 2014, <https://www.wnyc.org/story/john-luther-adams-bad-decisions-and-finding-home/>.

<sup>21</sup> Matthew Burtner, “EcoSono: Adventures in Interactive Ecoacoustics in the World,” *Organised Sound* 16, no. 3 (2011), 234.

## Site-Specific

For others, the field recording may be untouched, intended to highlight or expose something specific or unique to the environment. Bernie Krause repeatedly recorded specific locations in a particular environment over the course of several years to show how humans have affected these places, using the natural sounds, or lack thereof as identifiers.<sup>22</sup> Other sound artists choose not to be stationary with their gear. Rather they record environments as they walk through it, documenting the ephemeral changes as one might experience it. These are often referred to as soundwalks and were commonly performed by members of the WSP. One of the most famous examples of this is Hildegard Westerkamp's *Kits Beach Soundwalk*, in which she walks along Kits Beach in Vancouver and narrates what she sees as listeners hear the sound of surf, birds, and Westerkamp herself. One excerpt features this narration: "It's slightly overcast and very mild for January...The ocean is flat, just a bit rippled in place. Ducks are quietly floating on the water...the tiny clicking sounds you hear are the meeting of the water and barnacles."<sup>23</sup>

Site-specific approaches often blend works of art in the form of temporary exhibitions or permanent installation pieces. *Wild Energy* by Annea Lockwood and Bob Bielecki is an outdoor exhibition located on the Caramoor campus that processes sounds outside the range of human hearing (bats, earthquakes, pressure waves from the sun, etc.) and amplifies them in a fifty-minute loop.<sup>24</sup> This exhibit also featured hammocks for one to relax in while indulging in Earth's hidden sounds.

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<sup>22</sup> Krause, *The Great Animal Orchestra & Into a Wild Sanctuary: A Life in Music & Natural Sound* (Berkeley, CA: Heyday Books, 1998).

<sup>23</sup> Hildegard Westerkamp, "Kits Beach Soundwalk," recorded 1989, track #3 on Transformation, emprientes DIGITALes, compact disc.

<sup>24</sup> Annea Lockwood and Bob Bielecki, "Wild Energy (2014)," Sonic Innovations, Caramoor, accessed February 24, 2020, <https://www.caramoor.org/music/sonic-innovations/wild-energy/>. Exhibit took place June 7 – November 2, 2014.

Lockwood has also recorded the sounds of famous rivers, including the Danube and the Hudson, which have been used as means of preserving their respective history and how their presence has affected the history of the surrounding locales. *The Sound Map of the Danube* is a traveling exhibit while *The Sound Map of the Hudson River* is part of a permanent installation in the Hudson River Museum in Yonkers, New York. Both have also been preserved in CD recordings.<sup>25</sup>

### Sonification

Sonification is distinct from field recording because it involves taking nonaudible phenomena and translating them into sound. The simplest manifestation of this is an Aeolian harp, a sound sculpture that amplifies wind as it passes through it. Another form of sonification is millimetrization, or the process of mapping visual or numeric data on a graph and translating the contours into musical pitches. Developed by the Russian-American music theorist Joseph Schillinger and employed by Heitor Villa-Lobos to compose *New York Skyline Melody* (1939), *Melodia da Montonha* (“Mountain Melody”) (1942), and *Symphony No. 6: Montanhas do Brasil* (“The Mountains of Brasil”) (1944).<sup>26</sup> These pieces also capture a profound musical perspective of place, rooted in Villa-Lobos’s personal experiences of New York City and Brazil. Other composers have attempted to use sonification to realize data gathered by environmental scientists. Andrea Polli’s website *Heat and Heartbeat of a City* presents sonification of heat data in Central Park, New York, during the summertime. It begins with pre-existing data from the 1990s, but also uses projected data of Central Park during the 2020s, ’50s, and ’80s.<sup>27</sup> Her other

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<sup>25</sup> Annea Lockwood, “A Sound Map of the Danube,” recorded 2001–04, Lovely Music Ltd. 2083, 2008. CD. & “A Sound Map of the Hudson River,” recorded 1982, Lovely Music Ltd. 2081, 1989 & 2003. CD.

<sup>26</sup> Bianchi, *Environmental Sound Artists*, xxv.

<sup>27</sup> Bianchi, *Environmental Sound Artists*, 4.

major sonification project is N., in which she sonifies and visualizes the Arctic in real time and displays it online.<sup>28</sup> Matthew Burtner also frequently uses sonification in his compositions and calls this type of music “ecoacoustic.” To him, wind speed, waves, and melting glaciers inspire and inform the compositional process, which he then blends with the Western musical vocabulary to create something wholly unique.

### **Philosophy of Place**

The literature and philosophy that guides this research has been conducted and theorized throughout the twentieth century. Much of it stems from differing interpretations of how one defines “place” and considers its physical, mental, and emotional impact. For example, Daniel Grimley and Denise Von Glahn examine the concept of space by focusing on the spiritual and emotional aspects of physical spaces. In his book *Delius and the Sound of Place*, Daniel Grimley notes different significations of the word “place”:

Place refers not only to a specific geographical site or set of coordinates, but also to matters of identity, presence, and behavior. To “know one’s place” for example, implies hierarchical notions of social class and distinction, and to “call a place home” is to evoke ideas of ownership and belonging.<sup>29</sup>

Von Glahn echoes this sentiment of place shaping one’s identity and her book *The Sounds of Place: Music and the American Cultural Landscape* examines the reciprocal nature in which place can inspire art and art in turn can evoke place.<sup>30</sup> She achieves this by focusing on American composers including (but not limited to) Ives, Copland, Ellington, and Reich.

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<sup>28</sup> Ibid, 5.

<sup>29</sup> Daniel M. Grimley, *Delius and the Sounds of Place* (Cambridge, UK: Cambridge University Press, 2018), 1.

<sup>30</sup> Denise Von Glahn, *The Sounds of Place: Music and the American Cultural Landscape* (Boston, MA: Northeastern University Press, 2013), 2.

The aforementioned composers use their music to evoke a particular surrounding. The naturally occurring birdsongs and weather patterns that inspired the music of Janáček, Messiaen, and Beethoven are unique to their particular time and place but could also occur in some form or fashion anywhere in the world at any given point in time. As Russolo, Varèse, and the WSP push the boundaries of what is sonically acceptable, we can also hear distinct sounds meant to evoke what they heard in Italy, America, and Canada respectively, which corresponds with Grimley's definition of place.

Grimley's definition of place as a sense of belonging or ownership is evident in both Adams and Burtner and their relationship to Alaska. Both have called Alaska home for a number of years and both have since composed a wealth of music inspired by and evoking aspects of Alaska. It is also consistent with the reciprocal relationship outlined by Von Glahn. In the introduction of her book, Von Glahn includes several questions that she uses as a framework for understanding how place affects composers and how why such pieces are noteworthy. These include questions like: What was the purpose of the memorialization of this place?; How did the composer relate to the place?; What compositional techniques did the composer employ to capture the place?; and What vision of the place and hence of the United States do each of these pieces convey?<sup>31</sup> Such questions are applied to the music of Adams and Burtner throughout this thesis. It is expected that these questions will create an understanding as to how the Alaskan landscape has motivated each composer as well as understanding how a listener can be aware of what their music is attempting to evoke.

In order to understand what Adams and Burtner are trying to evoke with their music, this thesis analyzes select works from each of the composer's catalog, spanning several decades of

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<sup>31</sup> Von Glahn. *The Sounds of Place*, 10-12.

their careers. These pieces will demonstrate how the composer attempts to recreate an element of Alaska's landscape or, more generally, aspects of nature. Another goal of this analysis is to discover how changes in the Earth's climate over the same period of years has also affected some of their compositional methods. Both composers' music is largely reactionary, reacting to the visceral and physical relationships each has towards Alaska. These personal experiences are realized in their music but have the ability to be recognized and understood by any listener reflecting on their own sense of place.

They employ many of the core components of the western music canon to achieve this while also embracing experimental approaches to orchestration and texture. Most of Adams' music is characterized by dense harmonic passages that slowly develop melodically over time, drawing inspiration from several sources of inspiration including John Cage, Morton Feldman, and Lou Harrison. Several of the pieces that were composed during the 1990's are colloquially referred to as his "white" pieces because of their exclusive use of the white piano keys (*Dream in White on White* and *In the White Silence*). Around the turn of the century though, Adams began experimenting with electronics to further illustrate life in the tundra. His installation *The Place Where You Go to Listen* is a literal representation of this, using real-time weather phenomena as musical source material. At the time of this writing, his writing has largely shifted back towards composing large orchestral works that overlap in rhythm and timbre. Recent works like *Become Ocean* and *Become Desert* break apart conventional orchestra arrangements in order to create an immersive listening experience by creating smaller ensembles and placing them around the audience, allowing them to swim in the water or light evoked in the respective pieces.

While the music of Adams uses music to imitate nature, Matthew Burtner uses nature to create music. Burtner's music often employs natural objects like rocks, stones, and water to more

explicitly show how human actions affect these materials as they exist in the wild. Sometimes these sounds are generated by the performer, sometimes they are recorded and played back during the performance. Burtner's opera, *Winter Raven* shows how Alaskan mythology and folklore provide a unique and intimate perspective on one's connection to the landscape, while *Auksulaq*, a later opera by Burtner, illustrates the dramatic changes in the global landscape through climate change. In each work the use of interactive electronics exemplifies the human-nature feedback loop by having the human performer in control. *Auksulaq* explores the harsh reality of that control by exploring the consequences of human decisions over the environment through one of humankind's greatest technological achievement: the internet.

Consequence is a theme that is often explored in Burtner's works. In *Sikuigvik* and *Iceprints*, Burtner takes data of ice sheets melting over several decades to provide the framework for two different piano pieces, in which the performer realizes the loss of ice over time through the piano and the recorded sounds of ice melting in real time. The data that inspires these pieces are largely collected from scientists working in Alaska and the Arctic regions. Burtner's music has since been used to showcase the cause-and-effect relationship between humans and their environment in an effort to spark social changes and ecological preservation initiatives.

There are plenty of works from each composer that will not be discussed as much as they should. One reason is that much has already been written on such works, like *Strange and Sacred Noise* by Adams or *Syntax of Snow* by Burtner. Another reason is because the goal of this thesis is to recontextualize these works to show how these pieces memorialize the world beyond Alaska. Adams and Burtner are certainly not alone in using music to reflect connection to a place, but the shared experience of both composers living in Alaska provides a convenient invitation to discuss how one particular environment can inspire a wealth of artistic inspiration.

The pieces discussed are not meant to signal any periodization in each composer's *oeuvre* but do intend to show an evolution towards composing pieces with more attention paid to replicating human-nature interactions and establishing a sense of place through sound.



## Chapter Two: Spiritual Geography

### John Luther Adams's Experiences in the Arctic and the Dessert

It is the middle of the summer, yet the sun is not high in the sky and the air is still frigid. You find yourself eager to explore the vast tundra, fueled by the exuberance of discovery. The sheer scale of your surroundings is awesome rather than intimidating. Along the horizon there lies an object you cannot identify. So, you go towards it. It looks like a rock, but no matter how long you walk, you seem to get no closer and are unable to confirm what it is. Suddenly, the object flies away, revealing itself to be a snowy owl.<sup>1</sup>

This anecdote is just one of the experiences that inspire the music of John Luther Adams. Living in Alaska and being surrounded by the state's vast natural landscape for almost forty years shaped both his musical and personal identities. His many journal entries and publications reinforce this, which is why his recent migration to the deserts of Mexico was unexpected by those familiar with his music. Those who read his publications would not be surprised to hear him lay blame on climate change, making his move seem far less dramatic than the changes taking place in his former home.

The concept of home is special to Adams and has taken many forms. Born in Meridian, Mississippi in 1953, Adams grew up as a rebellious kid living in both the southeastern and northeastern corners of the United States. He was kicked out of several high schools, but eventually made his way to Macon, Georgia, where he studied music and composition at Mercer University and Wesleyan College in Connecticut. His earliest musical inspirations were Frank

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<sup>1</sup> Nadia Sirota "Meet the Composer: John Luther Adams," November 16, 2014, in *Meet the Composer*, produced by WNYC, podcast, MP3 audio, <https://www.wnyc.org/story/john-luther-adams-bad-decisions-and-finding-home/>.

Zappa and Edgard Varèse. Zappa often spoke of Varèse's influence on his own music and included a quote by Varèse on several of his album covers. The particular quote that caught Adams's attention was "The present-day composer refuses to die..."<sup>2</sup>

Adams would later study with James Tenney and Morton Subotnik at the California Institute of the Arts (Cal Arts). Although both composers are particularly well known for their early contributions to electronic music, Adams has rarely explored electronic composition. Nevertheless, his studies at Cal Arts were transformative, even though they also left a lot of uncertainty upon graduation. Despite being accepted to graduate schools, Adams never felt like he truly fit in with them. When one professor said he needed to write more traditional music, like a sonata for bassoon and piano, Adams sent him this:

*Sonata for Bassoon and Piano*  
(for Processor X)

My traditional background  
is sound  
-an intense love for sound  
and very little else.

The power of sound  
will always be more important to me  
than any techniques, conventions, or traditions.

Make a joyful noise  
and  
let the sound resound!<sup>3</sup>

Adams hated Los Angeles, despite it being an exciting period of discovery for him:

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<sup>2</sup> Nadia Sirota, "Meet the Composer: John Luther Adams," 3:45. This quote is part of a manifesto created by Varèse when he established the International Composers Guild in 1921. The full quote reads, "the present-day composer refuses to die. They have realized the necessity of banding together and fighting for the right of each individual to secure a fair and free presentation of his work."

<sup>3</sup> John Luther Adams, *Winter Music* (Middletown, CT: Wesleyan University Press, 2004), 31-32.

The whole time I was there [Los Angeles] I felt lost, and not in a good way...there was this kind of inner gnawing. I just felt lost in the freeways and that sprawl...It made me long for home, which I never felt I had because we moved all the time and because I'd grown up here and there in equally homogenous suburban surroundings, so there was a deep, inarticulate hunger to find a place in which I might belong.<sup>4</sup>

In 1974, Adams abandoned his academic pursuits and moved to Alaska, where he worked as a guide and environmental activist for the Northern Alaska Environmental Center. He was a part of the Alaska Coalition, which argued for the passage of the Alaska Lands Act in order to preserve the Alaskan wilderness.<sup>5</sup> He also became the principal timpanist and percussionist with the Fairbanks Symphony Orchestra and the Arctic Chamber Orchestra. Conductor Gordon Wright was especially important in programming his music and allowing Adams to launch a new music series, further exposing him to new works. His “grad school,” as he referred to it, expanded when he became the music director for KUAC-FM, the Fairbanks public radio station where he conducted interviews with such composers as Morton Feldman, Conlon Nancarrow, Peter Garland, and Ingram Marshall.<sup>6</sup>

This chapter outlines the chronology of Adam’s musical works to help illustrate how living in Alaska and witnessing the effects of climate change have affected his compositional output. To do this, I analyze early works that exemplify the whiteness that covered the land (*Dream in White on White*), then explore his maturation process with pieces like *The Farthest Place*, *The Wind in High Places*, and his installation work, *The Place Where You Go to Listen*. Finally, I conclude with *Become Ocean*, *Become River*, and *Become Desert*, an unintended trilogy of pieces written after he left Alaska.

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<sup>4</sup> Sirota, “Meet the Composer: John Luther Adams,” 18:20.

<sup>5</sup> Sabine Feisst, liner notes for (*In the White Silence*. New World Records, NY, 2003, compact disc), 1.

<sup>6</sup> Adams, *Winter Music*, 33.

## “White” Pieces

Beyond the early inspiration drawn from Zappa and Varèse, Adams continued to be inspired by composers, poets, and painters throughout his career, including, but not limited to: John Cage, Lou Harrison, Conlon Nancarrow, Henry Cowell, John Haines, Barry Lopez, and Ellsworth Kelly. Adams is often described as a “minimalist” or “postmodernist” composer because he uses reduced musical material and avoids expressive rhetoric.<sup>7</sup> However, Adams shares a closer kinship musically to Morton Feldman than he does to Steve Reich or La Monte Young. Kyle Gann, music professor and author, notes that much of Adams’s early aesthetics are reminiscent of Morton Feldman’s music.<sup>8</sup> Known for soft dynamics and nearly devoid of articulation, Gann argues that “the main thing that Adams inherited from Feldman was the permission to limit his materials, to give the listener unarticulated color with little surface detail to hang on to.”<sup>9</sup> Mitchell Morris argues Adams is a “Green” composer, because he is an “ally” in different ecological discourses.<sup>10</sup> According to Morris, a “Green” composer does not necessarily need to adhere to any particular philosophy, but instead:

...a Green composer would out of necessity operate in the realm of culture-making; and although the music a Green composer might produce would surely reveal a close fit with some of the discourses of strong environmentalism, its aesthetic character would give it a reach extending to more mainstream realms of culture making as well.<sup>11</sup>

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<sup>7</sup> Sabine Feisst, liner notes for *In the White Silence*, 1.

<sup>8</sup> Adams, *Winter Music*, xiv.

<sup>9</sup> Ibid.

<sup>10</sup> Mitchell Morris, “Ecotopian Sounds; or, The Music of John Luther Adams and Strong Environmentalism,” chapter in *Crosscurrents and Counterpoints: Offerings in Honor of Bengt Hambraeus at 70* (Göteborg universitet, 1998), 131.

<sup>11</sup> Ibid, 132.

Adams does not reject this assertion but argues that his music extends beyond environmental activism, writing that “I interpret Morris’s use of the term ‘Green’ in relation to my music as cultural and philosophical rather than narrowly political.”<sup>12</sup>

Adams seems to prefer using “sonic geography” as a metaphor for explaining his music because it keeps it rooted in a sense of place, which is often how Adams approaches writing music, rather than attempting to follow a specific compositional procedure. Musicologist Sabine Feisst echoes Adams’s desire to create a “sonic geography,” but notes that such pieces do incorporate “minimalist” and experimental techniques including sustained tones, static gestures, and consonant, modal harmonies.<sup>13</sup>

Early examples of pieces that strive to establish his vision of “sonic geography” include *songbirdsongs* (1974–80), *Night Peace* (1976), and *Earth and the Great Weather* (1989–93). Each of these pieces aspires to recreate a sense of place without trying to accurately transcribe or illustrate what the place or songs sound like. The combination of Adams’s desire to establish a “sonic geography” and the “monochromatic” aesthetic of Feldman matures in pieces like his *Dream in White on White* (1991) and *In the White Silence* (1998), both of which even limit themselves to only using the “white” notes of keyboard.

In the program notes for *Dream in White on White*, Adams reinforces the desire to create a “white” aesthetic using the “white” tones but also by using “broad washes of whole and half notes — ‘white notes’ of a different sort.”<sup>14</sup> The use of harmonics, unstopped notes, mutes, and no vibrato further establish a “white” tonal palette.<sup>15</sup> The piece opens with the slowly moving “white” notes played a string orchestra, soon joined by a separate string quartet. The entrance of

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<sup>12</sup> Adams, *Winter Music*, 124.

<sup>13</sup> Feisst, liner notes for *In the White Silence*, 1.

<sup>14</sup> John Luther Adams, *Dream in White on White* (Fairbanks, AK: Taiga Press, 1992).

<sup>15</sup> *Ibid.*

the harp indicates forward motion, as if something or someone has appeared on the horizon, which Morris describes as a “subjective,” emotional reaction to the piece, counterbalancing the “objective” moments that describe the landscape.<sup>16</sup> In spite of all this, Adams wanted this piece to move beyond being a piece *about* place, but instead having the piece *be* place itself.<sup>17</sup> This radical conception of music’s capacity to engender the enormity of place seems to push the boundaries of what had previously been a trend by composers.

Continuing in the compositional vein of *Dream in White on White*, *In the White Silence* shows Adams further explaining his methodology for establishing a “white” sound. In the score he writes: “White is not the absence of color. It is the fullness of Light. Silence is not the absence of sound. It is the presence of stillness.”<sup>18</sup> He notes how painter Kasimir Malevich (whose painting *White on White* was another inspiration for *Dream in White on White*) and John Cage embraced whiteness and silence as integral components to their artistic creation. However, Adams seeks to go beyond depicting the landscape with his music. In the program notes for *In the White Silence*, he writes:

I no longer want to be outside the music listening to it as an object apart. I want to *inhabit* the music, to be fully present and listening in that immeasurable space which Malevich called “a desert of pure feeling.”<sup>19</sup>

With *In the White Silence*, Adams aspires to create a desert-like aesthetic, which is a coincidence considering this piece was composed almost two decades before he moved out of Fairbanks. Nevertheless, the concept of inhabiting his music is something shared by listeners and the composer alike.

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<sup>16</sup> Morris, “Ecotopian Sounds,” 134.

<sup>17</sup> Adams, *Winter Music*, 15.

<sup>18</sup> John Luther Adams, *In the White Silence* (Fairbanks, AK: Taiga Press, 1998).

<sup>19</sup> *Ibid.*

Surprisingly, the score of *In the White Silence* and other related pieces do not appear as disparate as they may sound. *In the White Silence* is often characterized by overlapping polyrhythms and timbres that make the page appear to be busier than it is, often evoking slowly moving forces in nature like a glacier melting or a sun rising. The piece is densest in the passage between rehearsal letters N and O (see figure 1).<sup>20</sup> Feisst adds that this piece “dispenses with traditional melodic and development syntax. Instead the piece is marked by static textures of densely layered sound, sustained tones, short repetitive patterns and long rising and falling lines.”<sup>21</sup>

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<sup>20</sup> Adams, *In the White Silence*.

<sup>21</sup> Feisst, liner notes for *In the White Silence*, 3.

The image shows a page of a musical score for the piece "In the White Silence" by John Adams, specifically measures 803 through 11. The score is arranged in a standard orchestral format with multiple staves. At the top right, the page number "103" is visible. The staves are labeled on the left as follows: Vib. 1, Orch. Bells, Cel., Hp., Vln. 1, Vln. 2, Vla., Vc., Vln. 1 (p), Vln. 2 (p), Vla., Vc., and Cb. The music is written in a complex, rhythmic style characteristic of Adams, featuring many sixteenth and thirty-second notes, often grouped in triplets. There are several dynamic markings, including "p" (piano) and "p" (piano), and some performance instructions like "N1" and "A". The score is printed on a white background with black ink.

Figure 1: *In the White Silence*, mm. 803–11

The piece is also adjusting space in the physical sense with relation to the arrangement of the orchestra—something Adams continues to do in his music, especially with the *Become* pieces. According to the score, the strings are divided into a string quartet and a string orchestra, with the orchestra seated upstage in a wide arc and the quartet in a smaller arc downstage.<sup>22</sup> The

<sup>22</sup> Adams, *In the White Silence*.



celesta is seated behind and between the quartet violins while the harp should be seated behind and between the viola and cello of the quartet; finally, the two vibraphones are positioned between the orchestra and the quartet.<sup>23</sup> These spatial placements, along with the sustained tone clusters and superimposed layers evoke clouds, another visual often depicted in Adams's music.

*In the White Silence* stretches out over the course of 75 minutes, often alternating between solo and tutti sections in a manner that Feisst classifies as an "expanded concerto grosso" form.<sup>24</sup> The more spacious opening texture (the A section) is counter-balanced with a chorale like section (B) that sometimes occurs with longer, contrapuntal lines (C). The latter two sections are indicative of what Adams calls "allover counterpoint," a technique reminiscent of Henry Cowell's, as described in his *New Musical Resources* (1930) and that suggests the paintings of Jackson Pollock or Willem de Kooning.<sup>25</sup>

Adams's period of writing music based on white key notes seems to culminate in *The Immeasurable Space of Tones* (2001), the process of which is documented in a series of journal entries contained within the pages of *Winter Music*. In both the book and the program notes for the piece, Adams recounts how Irish art critic Brian O'Doherty responded to Mark Rothko's *Number 5* (1950) by saying "after this, the lines disappear completely."<sup>26</sup> It was seen as Rothko's breakthrough into a mature style, just as Adams views this piece as a leap forward in his compositional maturity. Upon hearing the premiere of Adams's piece, *The Light that Fills the World* in 1988, his friend Leif Thompson remarked, "I especially like that middle section. You know, the part where nothing happens. That's what you really want to do, isn't it?"<sup>27</sup> A little over

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<sup>23</sup> Ibid.

<sup>24</sup> Feisst, liner notes for *In the White Silence*, 3.

<sup>25</sup> Ibid.

<sup>26</sup> Adams, *In the White Silence*.

<sup>27</sup> Adams, *Winter Music*, 148.

a decade later, Adams finally seems to have reached a certain level in his compositional process that he may not have even realized he was trying to obtain. Having reached this point, Adams appears to move beyond trying to have his music reflect a static environment, or several shades of color. Adams's later works display a desire to keep expanding his capabilities as a composer, continuing to find new ways of illustrating landscape through tones and always reflecting on how place influences art. *The Light That Fills the World* marks a turning point in Adams' music, shifting away from large orchestral works towards chamber works and dalliances with electronic mediums. The trajectory of his career in this period further challenged him to scale his own mountain of possibilities and redefine himself as a composer with *The Place Where You Go to Listen*.

### ***The Place Where You Go to Listen***

The program notes for *In the White Silence* feature Adams contemplating the notion of music as place and place as music.<sup>28</sup> Similarly, *Dream in White on White* is one of his first attempts to compose a piece that *is* place, rather than emulating one. This continued desire and obsession drives his compositional process, with *The Place Where You Go to Listen* as the crowning achievement. According to Tyler Kinnear, this piece is perhaps the closest realization of "sonic geography."<sup>29</sup> *The Place* is an audiovisual installation designed to capture and translate raw data into music through sonification. This data largely consists of meteorological or geographic information that, when processed through a computer in real time, produces a unique display of sound and light; always changing in response to the constant shifts in the outside

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<sup>28</sup> Adams, *In the White Silence*.

<sup>29</sup> Tyler Kinnear, "Voicing Nature in John Luther Adams's *The Place Where You Go to Listen*." *Organised Sound* 17, no. 3 (2012): 2.

world to produce an ephemeral experience that has inspired pilgrimages by fans of Adams's music.

The name is derived from the Iñupiaq word Naalagiagvik, which, according to legend, is the name of a place where an Inupiaq woman would regularly visit to hear the sounds of local animals and unseen sounds.<sup>30</sup> The pilgrimage-like ethos of this myth inspired Adams to create his own place that would bring unseen sounds to life.

### **Mechanics of *The Place***

**Sound.** Housed in a small room of the Museum of the North, at the University of Alaska-Fairbanks, *The Place* captures geological data (e.g., daylight, temperature, seismic activity, etc) from Interior Alaska, a region extending from the Alaskan Range to the Brooks Range and encompassing a majority of the Yukon River Basin.<sup>31</sup> This material is then synthesized in real-time using sonification and the signal-processing software Max/MSP to produce a constantly changing audio and visual display. A random number generator is also used to filter pink noise; distinct from white noise in its higher frequencies and reduced amplitudes. The use of pink noise as opposed to white noise is distinct because pink noise often occurs in nature in the form of wind or a waterfall, and therefore provides different “shades” of sound to *The Place* that mimic sounds found in nature.<sup>32</sup>

Because much of the source data does not abide by the same laws and parameters as a musical composition, Adams establishes his own parameters to create a variety of timbres and tones:

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<sup>30</sup> John Luther Adams, *The Place Where You Go to Listen* (Middletown, CT: Wesleyan University Press, 2009), 109.

<sup>31</sup> Ibid.

<sup>32</sup> Kinnear, “Voicing Nature,” 2.

- The harmonic fields associated with night and day are tuned in twelve-tone equal temperament.
- The bell sounds associated with the aurora borealis are tuned in prime-number “just” intervals.
- The drum sounds articulated by seismic activity fluctuate continuously within a limited low-frequency range.
- And the sound of the moon is a narrow band of pink noise that floats freely over a wider frequency range.<sup>33</sup>

Mounted on the wall, there are six speakers that emit the positions of the sun and moon. As their position changes relative to the horizon, their representative sound moves accordingly around each of the speakers.<sup>34</sup> The separation between the sun and moon is further realized as Day and Night Choirs, with the Day Choir corresponding to the sun and the Night Choir corresponding to the moon. A program called SunAngles is employed to track the position of the sun above and below the horizon and around the cardinal points at any given time.<sup>35</sup> This information is processed to determine both the sound frequencies and light hues that are projected in the room at any given point in time. Table 1 displays bottom frequencies in relation to the sun’s position during the day at four major dates of the year while Table 2 displays the same relationship at night when the sun is not visible.<sup>36</sup>

<b>2006</b>	<b>Height of Sun (Degrees)</b>	<b>Bottom Frequency (Hz)</b>
Winter Solstice	2.0	107.93
Vernal Equinox	25.63	216.64
Summer Solstice	48.6	426.54
Autumnal Equinox	25.67	216.89

Table 1: Approximate frequency values at solar noon

<sup>33</sup> Adams, *The Place Where You Go to Listen*, 114–115.

<sup>34</sup> Kinnear, “Voicing Nature,” 3.

<sup>35</sup> Adams, *The Place Where You Go to Listen*, 116.

<sup>36</sup> Ibid, 120. 2006 was the first year of the installation. These numbers are likely not similar to today’s data.

2006	Height of Sun (Degrees)	Bottom Frequency (Hz)
Winter Solstice	-48.58	24.27
Vernal Equinox	-24.48	49.42
Summer Solstice	-1.5	97.30
Autumnal Equinox	-24.83	48.91

Table 2: Table 1: Approximate frequency values at solar midnight

Seismic activity is emitted from two subwoofers in the base of the wall panels, while geomagnetic activity is heard through six speakers in the ceiling.<sup>37</sup> The combination of these “tuning” procedures creates a unique spectrum of textures that layer on top of each other much like a Jackson Pollock painting and is described by Adams as “an orchestration of untouched material.”<sup>38</sup> Nevertheless, *The Place* does not function like a traditional piece of music: it has no beginning, middle, or end; the “instruments” are not tangible objects; and the performers are forces of nature, meaning *The Place* could theoretically be tuned to any location on earth.<sup>39</sup> Despite this, there is still a human element that affects the composition. As we affect our climate, the daily movement of these natural forces also change, further affecting the sound of *The Place*.

**Light.** The other major feature of *The Place* is its ephemeral light display. One of the walls of the room has a frosted glass surface lit by fiber-optic cables. There are two fields of color that extend the full range of visible light throughout the seasons. Each field moves from opposite ends of the spectrum and they eventually meet in the middle. The Day Field moves

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<sup>37</sup> Kinnear, “Voicing Nature,” 3.

<sup>38</sup> Adams, *The Place Where You Go to Listen*, 115.

<sup>39</sup> *Ibid*, 115–116.

from red to orange to yellow (see Table 3) while the Night Field moves from violet to blue to cyan (See Table 4).<sup>40</sup>

<b>Day/Time</b>	<b>Hue</b>	<b>CMY Values</b>
Winter Solstice, Midnight	Midnight Blue	230/255/0
Equinox, Midnight	Deep Red	0/255/255
Summer Solstice, Midnight	Orange	0/210/255
Winter Solstice, Noon	Peach	0/155/255
Equinox, Noon	Yellow	0/70/255
Summer Solstice, Noon	Maximum Yellow	0/0/255

Table 3: Day Field color spectrum.

<b>Day/Time</b>	<b>Hue</b>	<b>CMY Values</b>
Winter Solstice, Midnight	Violet	210/255/0
Equinox, Midnight	Violet	210/255/0
Summer Solstice, Midnight	Royal Blue	220/255/0
Winter Solstice, Noon	Azure	255/200/0
Equinox, Noon	Pale Blue	255/75/0
Summer Solstice, Noon	Maximum Cyan	255/0/0

Table 4: Night Field color spectrum.

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<sup>40</sup> Adams, *The Place Where You Go to Listen*, 117. CMY stands for cyan, magenta, yellow.

By turning natural forces into an audiovisual experience, Adams effectively creates a narrative that can be understood by humans, even if they are not aware of it. And while Adams himself is not necessarily a soundscape composer, *The Place* satisfies Barry Truax's four rules for soundscape composition:

- Adams maintains recognizability of the source material by designating sound and light signals that evoke traits associated with specific natural phenomena.
- Many visitors to the Museum of the North are familiar with the geophysical events voiced in the installation and their association with Alaska.
- Adams's awareness of Alaskan geography and indigenous cultures is integral to the design of *The Place*, demonstrated by both the conception of the installation as a form of "sonic geography" and the Iñupiat myth surrounding *The Place Where You Go to Listen*.
- By "listening" to geophysical features of Alaska the museumgoer is given the opportunity to contemplate his or her place within immediate surroundings and beyond.<sup>41</sup>

The effect of *The Place* is one of self-reflection and stasis, allowing the world to move through its daily activities and offers a window into how the world functions regardless of whether or not humans involve themselves. In this case, there is a daily narrative that occurs, and *The Place* can serve as a translator, allowing people to observe this as it unfolds in real time.

### **Experiencing *The Place***

There is a door separating *The Place* from the rest of the museum. On one side of the door is a sign that says "please enter quietly"; on the other is an interactive video-plaque summarizing the different sounds one might be expected to hear. As you enter the room, there is another plaque, this one with words from Adams himself, explaining the inspiration and conception of *The Place*. After turning a corner, the room opens up to reveal the light display and solitary bench. Despite the informational plaques, many people seem to simply pass through

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<sup>41</sup> Kinnear, "Voicing Nature," 5.

the room with little to no regard toward what the room is conveying and its meaning; during my visit to *The Place*, most other attendees spent no more than two minutes in the room. Alex Ross of *The New Yorker*, who wrote the foreword to Adams's book *The Place Where You Go to Listen*, recounts his experience:

On the two days I visited "The Place", various tourists came and went. Some, armed with cameras and guidebooks stood against the back wall, looking alarmed, and left quickly. Others were entranced. One young woman assumed a yoga position and meditated; she took *The Place* to be a specimen of ambient music, the kind of thing you can bliss out to, and she wasn't entirely mistaken. At the same time, it is a forbiddingly complex creation that contains a probably irresolvable contradiction. On one hand, it lacks a will of its own; it is at the mercy of its data streams, the humors of the earth. On the other hand, it is a deeply personal work, whose material reflects Adams's long-standing preoccupation with multiple systems of tuning, his fascination with slow-moving formal processes, his love of foggy masses of sound in which many events unfold at independent tempos.<sup>42</sup>

Perhaps the biggest limitation to experiencing *The Place* is that visitors are beholden to the museum's hours of operation (typically 9am–5pm), making some light and sound combinations—the aurora borealis for example—nearly impossible to experience. There is also no livestream viewing or listening experiences set up at this time.

Nevertheless, as I discovered when I was there, one of the things that makes *The Place* unique is that it is nearly impossible to experience it alone. It is likely that some of one's time spent in the room will be shared with others, meaning that their presence also affects what you see and hear. The rustling of coats, the sound of zippers opening and closing, muted whispers, heavy breathing from those meditating...all of these sounds (or noise, depending on the expectations of your experience) and one's awareness of such sounds contributes to the totality of experiencing *The Place*.

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<sup>42</sup> Adams, *Winter Music*, x.



In that respect, *The Place* becomes an avatar for how we as humans interact with each other and nature. Nature will continue through its daily progressions and, while experiencing it can be a solitary act, the reality is that interacting with nature is a communal act, with everyone having different intentions and expectations when they choose to experience the world.

In the years following the installation of *The Place Where You Go to Listen*, Adams would continue to ponder a series of questions that he rhetorically poses in his book about *The Place*: Does the place create the artist? Or does the artist create the place?<sup>43</sup> There are no easy answers to these questions because while a place may influence an artist to create, the changes that occur within that place over time—the kind of changes that can only be noticed by someone who has remained in that place for many years and has carefully observed such changes—the artist may still be able to create a place entirely for themselves and does not necessarily have to be done in one specific location.

### ***Become Trilogy***

After nearly forty years, John Luther Adams finally left Alaska. Considering that much of his most popular work was composed while living there, it seemed inconceivable to many that he would ever leave. He became inextricably linked to the land. When people asked him if he would ever consider leaving, he used to say, “No. I wasn’t born here. But my life really began in Alaska. And, I imagine, I will die here.”<sup>44</sup> As he grew older his response to the same question changed a bit: “Sure. Sometimes I think about leaving Alaska. But I have the greatest studio in the world. How could I leave that?”<sup>45</sup> In a candid essay published in *The New Yorker* in 2015,

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<sup>43</sup> Adams, *The Place Where You Go to Listen*, 101.

<sup>44</sup> John Luther Adams, “Leaving Alaska,” *New Yorker*, June 17, 2015.  
<https://www.newyorker.com/culture/culture-desk/leaving-alaska>.

<sup>45</sup> *Ibid.*

Adams explains several reasons for finally making the decision to leave Alaska, including the death of friends, climate change, and periods of depression.<sup>46</sup>

In 2014, he and his wife Cindy began living between New York and the Mexican desert.

Any fears of losing inspiration by being in another place quickly faded, as Adams recounts:

In Mexico, any lingering fears I had about losing my inspiration soon disappeared, amid the excitement of learning a new landscape—new weather, new light, new plants, and new bird songs—in the Sonoran Desert, at the edge of the Pacific. There in recent years, I’ve composed the concert-length choral work “Canticles of the Holy Wind”; “Become River,” for chamber orchestra; and my largest symphonic work to date, “Become Ocean.”<sup>47</sup>

*Become Ocean* (2013) has become Adams’s most successful work to date for several reasons. It was awarded a Pulitzer Prize in 2014 and a Grammy for Best Contemporary Classical Composition in 2015. It inspired pop celebrity Taylor Swift to make a donation of \$50,000 to the Seattle Symphony’s music education programs. In addition, it has become the first in a trilogy of pieces known as the “Become Series.”

Commissioned by Ludovic Morlot and the Seattle Symphony, *Become Ocean* is for a large orchestra that is split into three smaller ensembles. These ensembles represent different prime number relationships (3, 5, and 7) and each ensemble performs a series of “waves,” each one rising and falling in pitch and dynamics at different rates based on their respective numbers.<sup>48</sup> This results in the orchestra overlapping or ebbing and flowing with one another throughout the forty-two-minute duration of the piece. There are only three times in which all three orchestras crescendo together to meet in the same place and there are two moments at which they decrescendo together. It is also a palindrome, resulting in the piece sounding like one

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<sup>46</sup> Ibid.

<sup>47</sup> Ibid.

<sup>48</sup> Milwaukee Symphony Orchestra, “Conversations with Composers: John Luther Adams,” YouTube, April 2, 2018, video, 8:32, <https://www.youtube.com/watch?v=SNyMNdnYZ5s>.

huge wave comprised of many smaller waves, although the formal structure of the piece is secondary to the experience of this piece. Adams has said that despite being composed for a concert hall, *Become Ocean* is actually best absorbed through a recording because the best way to experience the piece is by being directly in the middle of the three orchestras, which is only possible in a recording.<sup>49</sup>

The title of the piece is borrowed from a John Cage poem in honor of Lou Harrison, in which he compares Harrison's music to many rivers coming together into a vast ocean ("Listening to it, we become ocean.")<sup>50</sup> With *Become Ocean*, Adams encourages listeners to engage with the piece such that they feel they become one with the piece; they themselves have become ocean, or something much larger than themselves.

There is an additional, ecological undertone to the title. The rapid recession of glaciers in the north may very well result in rising sea levels that consume large swaths of our planet, in which we may *literally* become ocean. This sort of prophetic doom hangs over the piece and has inspired Alex Ross to write, "It may be the loveliest apocalypse in musical history."<sup>51</sup> Upon awarding it the grand prize, the Pulitzer committee also considered it "a haunting orchestral work that suggests a relentless tidal surge, evoking thoughts of melting polar ice and rising sea levels."<sup>52</sup>

In order to talk about *Become River* (2010), one must examine the back story for *Become Ocean*. Adams had already received the commission from the Seattle Symphony and had begun

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<sup>49</sup> Cantaloupe Music NYC, "John Luther Adams: Become Ocean (Promo Trailer)," YouTube, October 3, 2014, video, 2:30, <https://www.youtube.com/watch?v=Yc-ocuXw8Ls>.

<sup>50</sup> Cantaloupe Music NYC, "John Luther Adams: Become Ocean (Promo Trailer)," 1:05. Poem referenced is entitled "Many Happy Returns."

<sup>51</sup> Alex Ross, "Water Music," *New Yorker*, July 8, 2013. <https://www.therestisnoise.com/2013/07/jlas-become-ocean.html>.

<sup>52</sup> Arun Rath, "An Inviting Apocalypse: John Luther Adams on 'Become Ocean,'" All Things Considered, NPR, September 28, 2014, <https://www.npr.org/sections/deceptivecadence/2014/09/28/350911062/an-inviting-apocalypse-john-luther-adams-on-become-ocean>.

working on the music that would become *Become Ocean*. However, during a dinner meeting with percussionist and conductor Steven Schick, Adams mentioned that part of the origin for the piece stemmed from Cage's poem about Lou Harrison's music in which he describes it as a river in delta. The final line is what inspired Adams to compose *Become Ocean*, but Schick encouraged him to write *Become River* for the Saint Paul Chamber Orchestra saying "You're already composing this ocean, maybe all you need to do is back upstream a little bit and compose the river in delta"<sup>53</sup> Adams promptly set aside *Become Ocean* until *Become River* was complete.

*Become River* is much smaller in scope compared to *Become Ocean*. It is scored for a chamber orchestra and features an inverted setup. The violins are elevated in the back of the ensemble and the remaining members are arranged on a decline.<sup>54</sup> It is also half the length of *Become Ocean*. According to Adams, it appears that *Become River* follows a similar form in which the sections of the orchestra move at different speeds, gradually moving from high to low, carrying the listener downstream.<sup>55</sup> Despite being composed before *Become Ocean*, *Become River* is often talked about as the second piece in this trilogy. This is mainly because the conceit for *Become Ocean* came first, but also in part due to the fact that the third piece, *Become Desert* (2019) is the same size and length as *Become Ocean*. As of this writing, a recording of *Become River* has not yet been released, but a recent newsletter from Adams confirmed a recording will be released in late 2020.<sup>56</sup>

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<sup>53</sup> The Saint Paul Chamber Orchestra, "John Luther Adams on 'Become River'," YouTube, April 21, 2014, video, 3:20, <https://www.youtube.com/watch?v=2HxNKbr5TOg>.

<sup>54</sup> John Luther Adams, "Becoming Desert," *Slate*, March 1, 2018. <https://slate.com/culture/2018/03/john-luther-adams-on-his-new-piece-become-desert.html>.

<sup>55</sup> Adams, "Becoming Desert."

<sup>56</sup> John Luther Adams, "News from JLA: New work on the horizon," email newsletter, February 18, 2020.

*Become Desert* concludes a trilogy of pieces that Adams did not even intend to write.<sup>57</sup> It was commissioned by a consortium consisting of the Seattle Symphony, the New York Philharmonic, the San Diego Symphony, and the Rotterdam Philharmonic Orchestra. The origin of its title is a reference to a quote from the Mexican poet Octavio Paz: “Close your eyes and listen to the singing of the light.”<sup>58</sup> There is also only one word of text recited throughout the piece: *luz*, which is Spanish for “light.” To Adams, this is the essence of the piece.

*Become Desert* challenges the scope of *Become Ocean* by splitting up the orchestra into five different sections, each moving at a different pace around the audience. The manner in which the musicians are positioned throughout the hall is also different:

I decided to disperse the strings all over the stage, with four harps and four percussionists interspersed among them. The other four choirs are elevated on high risers, in balconies, lofts, or boxes around the performance space. Upstage, a choir of 16 woodwinds and a percussionist playing crotales (antique cymbals) is elevated as high as possible above the strings. A choir of eight horns and a percussionist playing chimes is elevated on one side of the space. A choir of four trumpets and four trombones and a percussionist playing chimes is elevated on the other side of the space. And a choir of singers and handbells is elevated at the rear of the space.<sup>59</sup>

Though deserts characteristically contain little to no water, to Adams, one still swims in the light that defines a desert, making every piece in the trilogy have some connection to swimming.<sup>60</sup>

With each piece in the trilogy, the placement of the ensemble is as much a reflection of how music can exist in a space as the space existing in the music.

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<sup>57</sup> Seattle Symphony, “John Luther Adams: Composing Beyond Desert,” YouTube, June 25, 2019, video, 0:05, <https://www.youtube.com/watch?v=HUprBp6CAn0>.

<sup>58</sup> Seattle Symphony, “John Luther Adams: Composing Become Desert,” 0:30.

<sup>59</sup> Adams, “Becoming Desert.”

<sup>60</sup> Seattle Symphony, “John Luther Adams: Composing Beyond Desert,” 2:20.

## The Right Choice

John Luther Adams has often said that he made all of the wrong decisions: “I didn’t go to Columbia, I didn’t study with the right people, I didn’t enter the right competitions, I dropped out of graduate school, I went to Alaska, I got as far away from all of that as I possibly could.”<sup>61</sup> Of course, he has also asserted that these “wrong choices” were really the “right choice” and, as it turns out, his desire to run *away* from all of these aspects of life meant that he was actually running towards something, even if he did not know exactly what it was.<sup>62</sup> Looking back on his expansive career, it is hard to imagine how it might have transpired in any other way.

Since leaving Alaska, Adams has made several comparisons between the tundra and the desert:

The tundra and the desert aren’t as different as they might seem. Climatically speaking, the Arctic is a desert. Both landscapes have few if any trees. Both have enormous skies and extraordinary qualities of light. And for me the feeling of being on the tundra or in the desert is remarkably similar.<sup>63</sup>

Both the desert and the tundra are defined by their scale, the depiction of which has become a hallmark of Adams’s music. Nadia Sirota remarks that the translation of scale from Adams’s music wipes away any context. Listening to an instant of his music gives one a sense of the landscape, but it would completely different from another isolated instant that occurs later in the piece.<sup>64</sup> Adams’s treatment of scale in his music is different than that of most classical composers like Beethoven and Wagner, who often create a sense of scale through the enormity of volume or musicians. The emotions and philosophical questions evoked in the music of Beethoven and Wagner can also be found in Adams’s music, but Adams often *creates* these

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<sup>61</sup> Sirota “Meet the Composer: John Luther Adams,” 40:42.

<sup>62</sup> *Ibid*, 41:15.

<sup>63</sup> Adams, “Becoming Desert.”

<sup>64</sup> Sirota “Meet the Composer: John Luther Adams,” 25:00.

themes in the context of existing in a particular place and often with smaller ensembles. Adams's music is at once both within one's grasp and so distant that is unattainable. As we'll see in the music of Matthew Burtner, scale is so intimate you need a microphone to hear it.

## **Chapter 3: Climate Ensembles**

### **The Ecoacoustics of Matthew Burtner**

Upon walking into the concert hall, you are greeted with the sight of a piano, an abundance of cables and other objects both foreign and familiar. The lights are darker than usual, partly for mood lighting, but partly to see projections on a video screen. As you take your seat you get the impression that this will not be an “ordinary” performance. When the performers take their place on stage, you recognize the cello, flute, clarinet, piano, and a few of the percussion instruments. You still have no idea what to expect even after a brief announcement describing the nature of the piece. You start to notice hiss in the air. At first it seems like just some static from all of the electronics, except that this hiss feels more pervasive, as if there is some sort of invisible screen between you and the performers.

All of a sudden, the hall begins to drown. Submerged beneath ice and freezing water, you are plunged into the depths and able to hear minutely articulated squeaks, ripples, and cracks as the ice melts. Next, you re-emerge from the depths. The air is howling. It’s sharp and piercing, but also familiar, like the hissing sound from earlier. You are invited to listen intently, to follow the sound despite not quite knowing what exactly to listen for. The wind dissipates to reveal rustling leaves, a babbling brook, and a deep rumbling that sounds like the physical exhalation of the earth. You feel connected to it and realize that it is actually just you, at one with the sounds around you, enveloped and enchanted.

This is perhaps one’s experience listening to the music of Matthew Burtner. He weaves the sounds of acoustic instruments with pre-recorded or electronically enhanced sounds to blur the line between what is artificial and what is manmade. For him, the wind and the waves are as suitable an instrument for musical composition as the piano or the violin. In fact, these



instruments often comingle with natural sounds in his compositions. He describes his music as “not a portrait of the landscape, but something *of* the landscape.”<sup>1</sup>

These ideas are often realized through musical ecoacoustics, which he defines as music that “embeds environmental systems into musical and performance structures.”<sup>2</sup> Dr. Omar Carmentales, a percussionist and avid performer of ecoacoustic music (particularly Burtner’s), describes the genre as “music derived from nature, rather than inspired by nature.”<sup>3</sup> Ecoacoustic music relies on methods of capturing and manipulating sound like field recordings and sonification as part of the compositional process. Burtner’s music echoes elements of Claude Debussy’s impressionist techniques, employs mathematical models in a manner similar to Iannis Xenakis, and manipulates recorded sounds using Pierre Schaeffer’s *musique concrète* methods. Burtner himself even compares his music to that of Beethoven, noting how both use small motives and large phrases to move the music forward simultaneously.<sup>4</sup> The combination of ecological, data-driven compositional procedures with a Western musical syntax manifest the dichotomy between human and nature and create a space for listeners to contemplate how they interact with nature on an individual basis. By examining select pieces from the past two decades of Burtner’s career, I demonstrate both how his music has evolved with changes in our climate and the role in which ecoacoustics has in shaping these compositions.

This chapter explores how Burtner uses different ecoacoustic procedures to create his compositions. The first part of this chapter will look at how applying these procedures with or

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<sup>1</sup> New Music USA, “Matthew Burtner: Engaging the Natural World,” Feb 14, 2013, YouTube, 8:08, [https://www.youtube.com/watch?v=ef8N\\_1j-L74](https://www.youtube.com/watch?v=ef8N_1j-L74).

<sup>2</sup> Matthew Burtner, “Ecoacoustic,” Accessed on Dec 9, 2019, Matthew Burtner, <http://matthewburtner.com/ecoacoustics/>.

<sup>3</sup> Furman Percussion, “Ecoacoustic Music at FU: Matthew Burtner's Six Ecoacoustic Quintets,” June 24, 2015, YouTube video, 5:39, [https://www.youtube.com/watch?time\\_continue=208&v=SQOyV10xi2o](https://www.youtube.com/watch?time_continue=208&v=SQOyV10xi2o).

<sup>4</sup> Matthew Burtner, “Climate Change Music: From Environmental Aesthetics to Ecoacoustics,” *The South Atlantic Quarterly* 116, no. 1 (Jan 2017): 146.

separate from acoustic instruments creates a syntax that supports the narrative presented in his theatrical and operatic works. The second part looks at how decades of data showing ice melting in Alaska has informed Burtner's compositional process in a number of works. The final part of the chapter looks at how Burtner's music and collaborative efforts have been used to advance or articulate different climate-change-based initiatives.

### **School & Early Influences**

Born and raised in Alaska, Burtner grew up with an intimate relationship to his surroundings. In fact, outdoor experiences have largely shaped his compositional process. He spent his formative years recording the sounds of ravens and snow, and experimented with many techniques for properly recording his environment.<sup>5</sup> As he entered academia, he omitted his Alaskan upbringing from biographical statements in an effort to fit into the mold of his teachers and inspirations, who appeared to be more urban and sophisticated.<sup>6</sup> Nevertheless, Burtner would soon stumble across musical inspiration from some twentieth-century composers who had already achieved a sound that appealed to him.

Iannis Xenakis's *La légende d'Eer* (1977–78) is one such example, in which a 7-channel electro-acoustic audio track combining instrumental sounds, electronic sounds and noise to envelope the listener, as if they are in the middle of the ocean.<sup>7</sup> This piece is also one of several by Xenakis designed to be performed in the context of a particular space, in this case, "Le Diatope," one of Xenakis's architectural projects that marries light and sound to architecture and

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<sup>5</sup> Matthew Burtner, "EcoSono: Adventures in interactive ecoacoustics in the world," *Organised Sound* 16, no. 3 (Dec 2011): 236.

<sup>6</sup> Matthew Burtner, email correspondence with author, November 5, 2018.

<sup>7</sup> Frédéric Duhautpas, Renaud Meric, Makis Solomos, "Expressiveness and Meaning in the Electroacoustic Music of Iannis Xenakis. The Case of *La légende d'Eer*." (proceedings of the Electroacoustic Music Studies Network Conference, Stockholm, June, 2012).

space to honor the opening of the Centre Georges Pompidou in Paris.<sup>8</sup> This piece would inspire Burtner to spend a year after college working in Xenakis' studio in Paris. Reflecting back on the experience, Burtner writes:

At that time [Xenakis] was developing a new technique called generational dynamic stochastic synthesis which was creating these super amazing computer sounds. Xenakis was very impressive—he embraced error, aliasing and stochastics and would compose music on the edge of chaos. The aesthetic was attractive to me and reminded me of playing saxophone in the high winds on the fishing boats, the melody mixing with the waves into a blend of human-nature music. Xenakis was doing it with mathematics, and I thought of doing it with the environment.<sup>9</sup>

Around this same time, Burtner was also exposed to the synthesized music of Barry Truax, specifically *Riverrun* (1986), a piece which in fact does not contain any river sounds. Instead it imitates a river using granular synthesis, a process by which small units of sound are produced and tightly packed together to create pitch and amplitude, much like the individual droplets in a river.<sup>10</sup>

The convergence of these influences gave Burtner the confidence needed to embrace his Alaskan heritage as source material for his compositions.<sup>11</sup> His early compositions rely heavily on noise and electronics to enhance or manipulate acoustic instruments. His “Metasaxophone Project” was an early iteration of this concept that he developed in 1999 while studying at Stanford University’s Center for Computer Research in Music and Acoustics (CCRMA). For this project, he affixed a computer microprocessor and microphone onto an acoustic tenor saxophone, his primary instrument growing up.<sup>12</sup> The result is an instrument that maintains its acoustic

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<sup>8</sup> Duhautpas, Meric, and Solomos, “Expressiveness and Meaning in the Electroacoustic Music of Iannis Xenakis.”

<sup>9</sup> Matthew Burtner, email correspondence with author, November 5, 2018.

<sup>10</sup> Barry Truax, “*Riverrun*,” Simon Fraser University, <https://www.sfu.ca/~truax/river.html>.

<sup>11</sup> Matthew Burtner, email correspondence with author, November 5, 2018.

<sup>12</sup> Matthew Burtner, “Metasaxophone Systems: Matthew Burtner,” Center for Computer Research in Music and Acoustics, Stanford, 2004, <https://ccrma.stanford.edu/~mburtner/metasax.html>.

functionality, while simultaneously becoming a controller, opening up the performer to an infinite array of sonic possibilities. Burtner has composed several works specifically for this instrument, including *Noisegate 67* (1999) and *Portals of Distortion* (1998) for nine tenor saxophones.<sup>13</sup>

Burtner's first work to use found natural objects as instruments was *Mists* (1995), scored for stones and noise. There are several performance options for this piece, which requires one to three players and can involve audience participation. Each performer either rubs their stones together or taps them together in time with a prescribed tempo marking. However, each performer is given a different tempo, occasionally resulting in the need for the performers to have a click track to maintain their tempo. Burtner uses wind as the primary soundscape over which the performers employ the "masking and blurring properties of noise to create an audio screen through which the listener perceives/performs a multi-dimensional rhythmic structure created by stones."

Having audience participation means that all the performers will not be beholden to the same tempi as the performers, thus inviting the randomness of sounds produced by the audience to make any given performance unique. The score also specifies that the stones are to be gathered locally before the performance, thereby encouraging those involved in the performance to consider their relationship to their local environment.

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<sup>13</sup> Burtner, "Metasaxophone Systems."

## Winter Raven: Personifying Ecology

*Mists* offers a taste of how ecoacoustic music can encourage audiences to reflect on the interconnectivity between humans and nature. This relationship is central to Burtner's compositional style and is indicative of how his upbringing in Alaska has shaped his personality. He further expands upon these relationships in *Ukiuq Tulugaq* (Inupiaq for "The Winter Raven"), a multimedia<sup>14</sup> opera/theatre work composed as part of his dissertation at Stanford between the years 1998 and 2002. In this work ecoacoustic music reinforced with computers, surround-sound playback, video projections, costumes and choreography illustrate behaviors in snow, ice, sunlight, and wind to portray aspects of environmental change in a "personification of ecology."<sup>15</sup>

*Ukiuq Tulugaq* closely follows Inupiaq mythology, which believes that the world was created by a black bird (usually identified in English as a raven) traveling through space and snow.<sup>16</sup> The snow that fell from the raven's wings began to form a snowball, which the raven playfully rolled through the air until it was large enough to land on. Thus, the Raven created the world from snow, which is the substance of life. Burtner summarizes the symbolism of the piece in his program notes:

Winter Raven (*Ukiuq Tulugaq*) metaphorically connects the story with the ecological seasonal approach of winter. Snow was present originally along with Raven, so winter is taken as a symbol for renewal and genesis. In winter, everything is covered equally in a blanket of snow unified under a single geographic contour. Freezing and covering, winter purifies and equalizes all things.<sup>17</sup>

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<sup>14</sup> Multimedia in this context means using multiple forms of communication because this work references indigenous forms of communication like masks and costumes as storytelling devices

<sup>15</sup> Matthew Burtner, "Winter Raven (*Ukiuq Tulugaq*)," Center for Computer Research in Music and Acoustics, Stanford, 2002, <https://crma.stanford.edu/~mburtner/winterraven.html>.

<sup>16</sup> Matthew Burtner, *Ukiuq Tulugaq (The Winter Raven)*, Stanford University, 2002, 2.

<sup>17</sup> Ibid.

The opera contains a three-act structure, which is typical in most operas, and is based on the seasonal changes occurring from Fall to Winter. According to Burtner's program notes for the score, each act is also intended to explore different psychological states based on the juxtaposition of time in relation to seasonal changes.<sup>18</sup> As the story progresses from Fall to Winter, the abundance of light is soon tarnished by the forthcoming ice, moving from human drama to ecological drama. The final act however, features many motifs from the first act that reflect on memory and cyclical processes of nature.<sup>19</sup> Within each act there are three different types of movements: 1) a chamber music piece with video, 2) a "story" incorporating music, dance, and video, and 3) a piece in which the human body or voice is used.<sup>20</sup> This nonlinear narrative is presented as possible dreams or anecdotes listeners might experience on this journey.<sup>21</sup>

The first act represents the Fall season and shows a family cutting wood and preparing for winter ("Family"). The sound of wind occurs throughout the movement as a performer representing the wood cutter casually chops wood and hums a melody that is independent of the piano, which is slowly cycling through different motifs.

The chamber piece in act 1 is "Tingnivik," which translates to "the time of leaves falling and birds flying." Scored for viola, alto saxophone, piano, noise generators, and video, "Tingnivik" further reflects the seasonal changes from Fall to Winter; it illustrates changes like light and temperature, which typically move slower than the daily activities displayed in "Family." Each instrument is assigned an environmental parameter: viola represents temperature,

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<sup>18</sup> Matthew Burtner, "Ukiuq Tulugaq (The Winter Raven)" (D.M.A., Stanford University, 2002) iv.

<sup>19</sup> Burtner, "Ukiuq Tulugaq (The Winter Raven)," <https://ccrma.stanford.edu/~mburtner/winterraven.html>.

<sup>20</sup> Ibid.

<sup>21</sup> Ibid.

the saxophone light, the piano wind, and the noise moves throughout all of these.<sup>22</sup> The changes that occur within each parameter forms the basis for each instrument's melodic development and the texture is the composite of all of the parameters, intended to acoustically represent an environment as it transitions through Fall.<sup>23</sup>

Act 1 closes with "Sikñik Unipkaak" and features dancers and instrumentalists depicting the sun and its rays. One dancer is designated as the "Sun" character and remains positioned in the center of the stage, while the other dancers represent "Sunlight" and move freely across the stage with pieces of mirror to reflect the yellow stage lights. The musicians are spread out across the stage and given different melodic lines, which may be played freely and freely chosen. There are also ten "expressive gestures" that may be inserted at will throughout (see figure 2). The only performers with specific musical instructions are the conga, tam-tam, and bass drum player, who play from a beat written out at the bottom of the score (fig. 2). There is an electronic part accompanying the ensemble whose initial presence marks the beginning of the piece and whose decay marks the end of the piece, concluding "with stillness and the sound of wind."<sup>24</sup>

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<sup>22</sup> Burtner, "Ecoacoustic and shamanic technologies," 12.

<sup>23</sup> Burtner, "Ecoacoustic and shamanic technologies," 12.

<sup>24</sup> Burtner, "Ukiuq Tulugaq (The Winter Raven)," 10.

The image shows a musical score excerpt for "Sikñik Unipkaak." Page 11. It consists of several staves of music, with a central box containing a rhythmic pattern for congas, tam tam, and base drum. The duration is noted as c.8 minutes. The score is arranged in a fan-like pattern, with staves radiating from a central point. The notation includes various musical symbols such as notes, rests, and dynamic markings. The copyright notice at the bottom reads "© Matthew Burtner, 2001, All Rights Reserved".

Fig. 2: Score excerpt for “Sikñik Unipkaak.” Page 11.

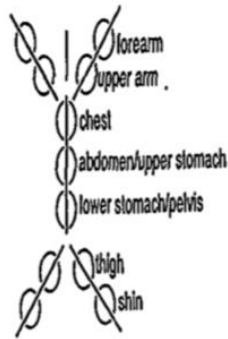
Act 2 illustrates the transition into winter, during which “industry is broken suddenly by the coming of ice and the freezing of everything.”<sup>25</sup> Burtner achieves this with “Kunikluk” (a horizon line obscured by blowing snow or ice), the ecoacoustic chamber piece that reinforces the emergence of ice through its use of noise generators. The mist-like quality of this sound alone recalls Truax’s music, but since Burtner combines these computer-generated noises with acoustic instruments, the overall texture is uniquely different and in this case is meant to reflect to the frost covered tundra. The performers are also instructed to vocalize syllables, which reinforce this barren landscape.

<sup>25</sup> Matthew Burtner, “Ukiuq Tulugaq (The Winter Raven)” iv.



Act 2 looks at the human body in isolated and group contexts. “Speaking Flesh” is for amplified dancer, percussionist, and dancer, in which the percussionist is instructed to perform various hand strokes on the body (see figure 3). This movement juxtaposes spirit and flesh while video images of shamanic masks are inserted between musical phrases.

The percussionist performs with hands on the amplified body of the dancer who lays on a table, face up. The notation specifies areas of the body to be performed on in the following manner:



Different types of hand strokes are specified in order to obtain a variety of sounds:

- X - normal stroke
- Λ - sharp slap
- O - quiet touch
- - cupped hand, lift hand after each stroke to create a hollow, open sound
- X - cupped hand, leave hand down after each stroke to create a muted sound
- X (with three diagonal lines) - tremolo/roll, type of stroke specified as above
- 1 - play the event only once. If events are ordered (1, 2, 3, etc.) they happen in the order specified but only once.
- O (with a vertical bar) - a rest following an event

Fig. 3: Performance instructions for “Speaking Flesh,” page 24.

Act 2 also features the controlled chaos of having eight dancers, eight percussionists and eight spoken voices independently moving through differing tempo changes in “Industrial Garden/Lost Voices.” As the voices recite freely chosen texts (such as newspapers, technical manuals, anything that seems appropriate to the idea of industry), the dancers (representing the voice of industry) move back and forth across the stage gathering materials to create Euclidian

structures displayed in the score.<sup>26</sup> The score also notes that the structures should appear “pointless and dysfunctional,” rather than the “perceived goal” of a perfect structure.<sup>27</sup>

Throughout all of this, percussionists are performing on assorted metal instruments, preferably found instruments such as brake drums or anvils in order to properly convey the sounds of industry as it overwhelms the human voice.

Act 2 concludes with “Siku Unipkaak,” which is scored for four players on two glockenspiels, electronics, and dance. As the glockenspiel players rapidly move through melodic cells, the dancer, representing Winter, performs the “story of ice.”<sup>28</sup> Meanwhile the accompanying dancers representing Ice play additional bell sounds including jingle bells or triangles.<sup>29</sup> Although their part is not specifically notated, the composite texture of the glockenspiels and “Ice bells” create a flurry of ice and snow, like a blizzard. Ideally the dancer performing Winter should be the same dancer who performed Sun in act 1 because this character is the main shamanic figure intended to personify the major natural forces and evoke the relationship between humans and nature.<sup>30</sup> This character is reinforced with different masks throughout the performance.

In Act 3, snow finally begins to fall. This act revolves around the idea of winter being a cycle for rebirth and regeneration. The sounds of wind first heard in Act 1 return in “Anugi Unipkaak” as a gesture back to the first act. This is performed by several percussionists on low drums that also vocalize different syllables. “Snowprints,” the ecoacoustic chamber ensemble that highlights this act, incorporates the sound of snow crunching from a walk along with flute,

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<sup>26</sup> Matthew Burtner, “Ukiuq Tulugaq (The Winter Raven),” 28.

<sup>27</sup> Ibid, 27.

<sup>28</sup> Ibid, 29.

<sup>29</sup> Ibid.

<sup>30</sup> Matthew Burtner, “Ecoacoustic and shamanic technologies,” 6.

cello, piano, electronics, and video projections. The sounds of snow correspond with photographs displaying leaf impressions, animal tracks, and changes in light on the surface.<sup>31</sup> The recorded sounds were also digitally altered to match the instruments to create two separate trios: one acoustic and one digital, allowing the electronic track of snow meld the two together.<sup>32</sup>

The opera ends with “Ukiuq Tulugaq (Winter Raven),” in which the character Raven finally appears, represented by an electric violin that imitates different expressions gathered from recordings of real ravens. The appearance of Raven invokes the memory of the family first seen in Act 1 by broadcasting a recording of “Family,” pre-recorded or taken during a rehearsal prior to the performance.<sup>33</sup> Despite the presence of snow falling at the end of the opera, the theme of cycles and rebirth exists in the optimism of knowing the seasons will continue to change, which gives hope for the future.<sup>34</sup>

In “Winter Raven” the dancers and video projections illustrate the story of the raven while a rotating chamber ensemble represents different characters. Most prominent is the electric violin representing the voice of Raven. Equally important is the use of special masks, which are worn by the dancers and musicians and represent the traditional shamanic characters on which this opera is based. Burtner uses ecoacoustics to integrate Western-European traditions with those of the Alaskan shamanic cultures.<sup>35</sup> It is Burtner’s desire to carefully weave Western and non-Western traditions in music and investigate each other’s perspective on its sense of place in connection to its environment. The result is less of a work of musical activism and more of an ambitious recreation of ancient folklore. Burtner’s incorporation of technology throughout the

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<sup>31</sup> Matthew Burtner, “Ecoacoustic and shamanic technologies,” 14.

<sup>32</sup> Ibid.

<sup>33</sup> Matthew Burtner, “Ukiuq Tulugaq (The Winter Raven),” 57.

<sup>34</sup> Matthew Burtner, “Ukiuq Tulugaq (The Winter Raven),”  
<https://ccrma.stanford.edu/~mburtner/winterraven.html>.

<sup>35</sup> Matthew Burtner, “Ecoacoustic and shamanic technologies,” 3.

work further serves as the bridge between physical and virtual movement and amplifies how culture and nature are inextricably linked in non-Western-European art. It illustrates how cohabitating with nature is a deeply embedded value in traditional Alaska culture.<sup>36</sup>

### ***Sikuigvik & Iceprints: The Sound of Melting Glaciers***

Around the same time as he was developing *Ukiuq Tulugaq*, Burtner was composing something less optimistic. *Sikuigvik* (1998), which translates to “the time of ice melting” is scored for piano and large ensemble. The subject of the piece is ice breakup in Alaska. It is a fairly normal process in nature; in fact, it is something often celebrated by people of the north as a portent for spring (similar to Groundhog Day in the U.S.).<sup>37</sup> Though not intentionally written as a piece about global warming, Burtner notes that changes in the patterns of ice breakup should be a cause for concern.<sup>38</sup>

According to Burtner, the music for *Sikuigvik* “looks at both aspects of the subject, exploring the nostalgic, violent, and whimsical characterization of ice melt.”<sup>39</sup> To do this, Burtner took data displaying the levels of ice melt in Alaska and used that information to determine harmonic and melodic procedures. The piece starts with the piano playing a single note to represent the first cracks in the ice. As another crack appears, “another rivulet of water, in the form of a sustained note, is added and the harmony also modulates.”<sup>40</sup> These changes also determine the rhythm of the piece and towards the end, the ice has almost completely melted,

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<sup>36</sup> Matthew Burtner, “Ukiuq Tulugaq (The Winter Raven),” <https://ccrma.stanford.edu/~mburtner/winterraven.html>.

<sup>37</sup> “Nenana Ice Classic 2020,” Nenana Ice Classic, <https://www.nenanaakiceclassic.com/index.htm>.

<sup>38</sup> Matthew Burtner, “Sikugvik,” last modified 2019, <http://matthewburtner.com/sikuigvik/>.

<sup>39</sup> Ibid.

<sup>40</sup> Matthew Burtner, “Syntax of Snow: Musical Ecoacoustics of a Changing Arctic,” in *North by 2020: Perspectives on Alaska’s Changing Social-Ecological Systems*, ed. Amy Lauren Lovecraft and Hajo Eiken (Alaska: University of Alaska Press, 2011), 659.

causing a flurry of notes that “replace the sense of articulation created by the ice and the sense of frozen sound is lost.”<sup>41</sup>

While this piece does not incorporate any electronic component, Burtner still classifies it as one of his first “ecoacoustic” pieces<sup>42</sup> and has repeatedly returned to this idea of mapping ice data into a musical context. In 2010, he revisited this idea to compose *Iceprints*, this time removing the ensemble and adding electronics. Written for piano and Arctic ice ecoacoustics, *Iceprints* embodies data illustrating changes in the Arctic ice over the span of forty years and translates it into music. The data is represented by a graph (figure 4) in which the X-axis shows the total sum presence of ice measured in millions of kilometers mapped onto the first six octaves of the piano. The Y-axis shows time, mapped onto pages of music.<sup>43</sup>

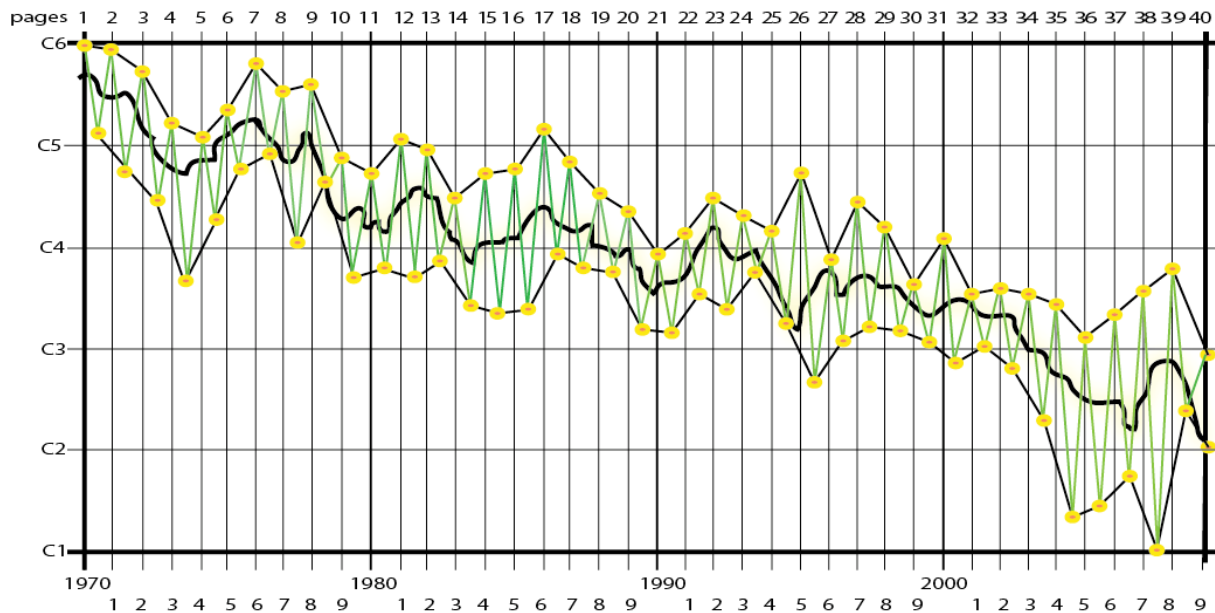


Fig. 4: Data graph from which *Iceprints* is based

<sup>41</sup> Ibid.

<sup>42</sup> A complete list of Burtner’s ecoacoustic pieces can be found here:  
<http://matthewburtner.com/ecoacoustics-list/>.

<sup>43</sup> Matthew Burtner, “*Iceprints*,” (Charlottesville, VA: University of Virginia, 2009), 4.

Each page of the score focuses on one year of this graph, which is positioned above the piano score. Below the piano score is a third graph providing the amplitude of the ice, which the performer is instructed to interpret as instructions for dynamics (figure 5).

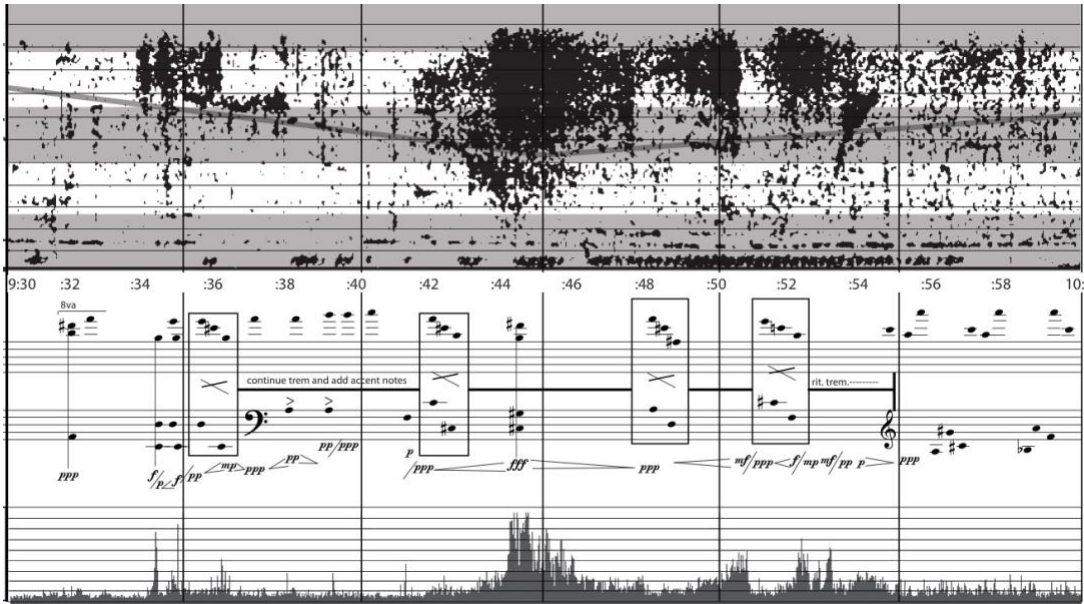


Fig. 5: Score excerpt from *Iceprints*

Burtner uses traditional notation to aid in the performer's understanding of how the music fits with the overarching data structure, a unique trait that correlates with most of his works. Burtner also includes explicit instructions as to how this notation should be understood when realizing this piece. For example, the use of accidentals, tremolos, and displaced octaves maintain traditional performance techniques. The score also notates singing cues, which are ignored by the pianist unless it is being performed as part of *Auksalaq*, a piece later discussed in this chapter.

Over the course of twenty minutes the pianist slowly moves down the octaves of the piano, representing the gradual, yet relatively rapid decay of the Arctic ice over time. The

audience is able to aurally immerse themselves below the ice and hear the subtle changes that are caused by this process. Burtner uses sonification processes to capture the change in the Arctic ice. He submerged hydrophones beneath the Arctic ice in order to record the ice melting in real time. These hydrophones were triangulated over a kilometer in a similar manner to how scientists and military officials track animals or submarines.<sup>44</sup>

As with most of Burtner's pieces, the accompanying electronic parts are best presented through an array of speakers that surround the audience. In the instance of *Iceprints*, the recordings gathered from the three hydrophones are processed through harmonic filters and played back through a three-channel surround system with each speaker corresponding to a hydrophone. The speakers are then triangulated around the concert hall to surround the audience and make them feel as though they are situated underneath the ice (figure 6).<sup>45</sup>

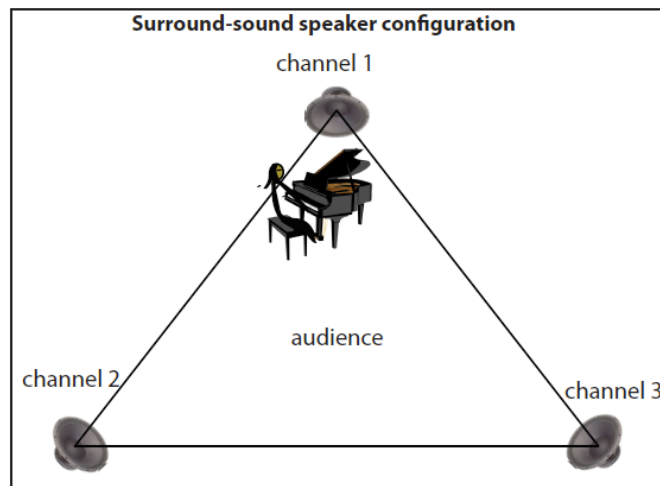


Fig. 6: Stage plot for a performance of *Iceprints*

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<sup>44</sup> "Auksalaq," Compositions, Matthew Burtner, <http://matthewburtner.com/auksalaq/>.

<sup>45</sup> Ibid.

Burtner understands that the musicians performing such pieces are not necessarily trained to understand the data being used to create these works and so his instructions are precise enough to ensure that the performer understands how the data informs the music. This in turn helps the performer interact with the data in a way that utilizes the piano as an instrument of measurement.

### ***Threnody & Auksalaq: Music for Activism, Community, and Collaboration***

*Iceprints* is sometimes performed in the larger context of his telematic opera, *Auksalaq* (2012). *Auksalaq*, or “melting snow,” is a telematic opera, meaning that it is performed worldwide at different venues simultaneously.<sup>46</sup> In order to achieve this, the internet is used as the vehicle for transmitting information and connecting the disparate locations for the performance. In what is perhaps Burtner’s most ambitious and musically activist piece to date, he uses scientific data gathered in collaboration with chief scientist Hajo Eicken and co-composed with Scott Deal to create a narrative of shared experiences felt and communicated both literally and figuratively across the planet.

The opera follows several narratives that take place over the course of approximately 40 years. The first is the fictional narrative of a boy who grew up in the Arctic, leaves his home to live abroad, and returns upon learning of the dramatic changes that have occurred over the decades. This particular narrative is meant to be the avatar for peoples’ contemporary relationship to their environment. The second narrative is manifested through interviews with scientists that discuss global changes and consequences of global warming. Their recorded interviews and data appear throughout the opera. The third narrative takes place in the form of

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<sup>46</sup> Matthew Burtner and Scott Deal. “*Auksalaq*, A Telematic Opera” Proceedings of the International Computer Music Conference 2011, University of Huddersfield, UK, July 31 – August 5, 2011, 511.



recorded ice ecoacoustics. These recordings are played to show the linearity of environmental change over 40 years, punctuated by the moment-to-moment changes in the ice heard through the recordings.<sup>47</sup> Having the opera occur in several places simultaneously is meant to illustrate the “paradoxical feeling of closeness and simultaneous disconnectedness.”<sup>48</sup>

In 2015, then-president Barack Obama became the first president to visit Alaska and witnessed first-hand the effects of climate change in the region and how Americans’ well-being was being affected. During his visit he convened along with Foreign Ministers of Arctic nations and indigenous representatives as well as scientists and policy makers from Alaska and the Arctic to present the GLACIER Conference (Global Leadership in the Arctic: Cooperation, Innovation, Engagement and Resilience).<sup>49</sup> The conference was intended to create momentum towards addressing action across the arctic regions.

The conference was reinforced with panels and exhibits, educating the public and policy makers on how climate change has affected that area and what types of action could be implemented to stall or stop the trajectory of such changes. Additionally—and perhaps most intriguingly—the U.S. State Department reached out to Burtner and other artists to present their work as means for displaying other perspectives on climate change. Burtner composed *Threnody* (*Sikuigvik*) as a sound installation in the Anchorage Museum. It’s sound emanated from a large ice sculpture in the museum that was created by architect Garrett Burtner.<sup>50</sup> The sound was also to be interstitially played throughout the GLACIER conference.

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<sup>47</sup> Burtner and Deal, “*Auksalaq*, A Telematic Opera,” 512.

<sup>48</sup> Ibid.

<sup>49</sup> “Conference on Global Leadership in the Arctic: August 30-31, 2015,” U.S. Department of State Archived Content, last modified January 20, 2017, <https://2009-2017.state.gov/e/oes/glacier/index.htm>.

<sup>50</sup> Matthew Burtner, “Threnody (Sikuigvik),” last modified 2019, <http://matthewburtner.com/threnody-sikuigvik/>.

*Threnody (Sikuigvik)* is another interpretation of Burtner's earlier work, *Sikuigvik* from 1998. Adding "Threnody" to the title marks the dramatic change and loss of ice since the late 90s when *Sikuigvik* was first composed. *Threnody (Sikuigvik)* is written for an open instrumentation ensemble with glacier ecoacoustics. A recent recording of the sound installation version (without live instruments) was recently released on Burtner's 2019 album "Glacier Music" along with *Muir Glacier, 1889-2009* and *Sound Cast of Matanuska Glacier*, all of which were commissioned by the U.S. State Department under President Obama.

The experience of working with the U.S. State Department shows how Burtner often collaborates as a part of his writing process. It's true that Adams has collaborated before on some of his compositions, mainly *The Place*, but that is also due to the interdisciplinary nature of the installation. Collaborative efforts for Burtner have taken many forms. From the interaction between video choreography of Aniseh Khan Burtner in *Winter Raven* to the co-creation of *Auksulaq* with Scott Deal, Burtner appears to be open to any opportunity to interact with representatives of other disciplines with a shared goal. This is evident in Burtner's most recent work, *Avian Telemetry* (2018, not yet published), in which Burtner worked with several faculty members of different disciplines from Furman University.

How does one person harness such complex data, often appearing foreign to anyone outside of the discipline, and fuse it with music—a discipline with complexities of its own—and create something that appears accessible to both performers and listeners alike? In an email interview with the author, Burtner shared his experience collaborating on a project from its point of inception all the way through the premiere. He recently worked with members of Furman University's Shi Center for Sustainability to create a piece focused on birdsongs. A biologist for the university named John Quinn brought forth data suggesting that some birdsong pitches were

raising over time to compete with urbanization.<sup>51</sup> This data was combined with Romantic-era literature collected by Mary Speitz, a literature historian at Furman. She examined how authors like Charlotte Smith, John Clare, and Percy Shelly wrote about what birdsongs sounded like. The combination of this was then fused with avant-garde percussion practices to create a percussion ensemble piece entitled *Avian Telemetry* (2018).

Burtner's music provides performers with intimate exposure to the musical activism he seeks to impart onto his music. He intends for the process of one learning and performing his compositions to in turn relate to how they themselves might interact with the natural world around them. He does not do this overtly, nor does he subject audience members to any pro-environmental doctrines. Rather he creates a broad soundscape in which he hopes audiences and performers will inhabit and use as a space for contemplation; a chance to reflect on how we fit into the world as humans, as artists, and as individuals.

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<sup>51</sup> Oden, A. I., Bomberger Brown, M., Burbach, M. E., Brandle, J. R. and Quinn, J. E. (2015), "Variation in Avian Vocalizations during the Non-Breeding Season in Response to Traffic Noise," *Ethology*, 121: 472-479. doi:10.1111/eth.12360.

## Chapter Four: Alaska, Memorialized

Taken as a whole, most of the questions posed by Von Glahn in the beginning of this document can be answered concretely. Both Adams and Burtner chose to memorialize Alaska because the time in which they lived there had a profound impact on their lives, continuing to permeate their *oeuvre*. Even the pieces not directly depicting Alaska still glorify place and its impact on their creative arts. Their relationships are reciprocal. They are inspired by the landscape and in turn compose music to commemorate it, which in turn has inspired other composers to memorialize their own places. As they have matured their methodologies may have changed, but each of their styles are distinct and unique.

The pieces outlined in this document only begin to scratch the surface in terms of how each composer intersects nature and humanity in their works. A quick scroll through each composer's website yields an abundance of music, each steeped with vastly different interpretations of the human-nature relationship. Despite each composer no longer residing in Alaska today (Adams divides his time between New York and Mexico while Burtner lives in Charlottesville, Virginia), their music continues to resonate with the appreciation for all landscapes that was nurtured while they lived there. Their music will continue to evolve as sure the world will continue to turn.

## Musicians and Climate Change Advocates

Leading activists in the fight against global warming have struggled to educate people on the long-term effects of climate change and potential solutions that can be implemented by everyday people in society. Between the barrage of conflicting information from scientists, sceptics, and politicians, it is hard to always find reliable information. Combine that with the extremely resonant echo-chamber of friends and colleagues contributing their own rhetoric on social media and it is understandable that some people choose to tune out such overwhelming conversations. However, as David Rothenberg, a musician and philosopher notes, “[t]hose of us who want our species to pay more attention to the environment will not achieve our goal by only stating scary facts and harboring inadequate feelings of guilt at the damage we have wrought.”<sup>1</sup> There must be some new and creative ways to approach this issue.

In recent years, activists have encouraged interdisciplinary artists to create works of art that may also serve to advocate for change. Al Gore’s Climate Reality Project and the Smithsonian Institute have both curated events in which artists and scientists gather to share ideas on how to solve issues related to climate change.<sup>2</sup> There have also been dozens of benefit concerts, festivals and conferences designed to use art and music as a vehicle for engaging communities with approaches to participate in conservation initiatives. Most of the organizations responsible for generating these events also commission composers and sound artists like Adams and Burtner for these events because their artistic voice resonates with the organization’s mission or values.

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<sup>1</sup> David Rothenberg, “Introduction: Does Nature Understand Music?” in *The Book of Music and Nature*, ed. David Rothenburg and Marta Ulvaeus (Middletown, CT: Wesleyan University Press, 2001), 8.

<sup>2</sup> Leah Barclay, “Listening to Communities and Environments,” *Contemporary Music Review* 36, no. 3 (2017), 144.

Other artists have formed their own initiatives. Leah Barclay, a sound artist worthy of more representation in this document, established Sonic Ecologies, which spawned from her doctoral research. The Sonic Ecologies Project is intended to inspire communities to engage with the environment through mainly site-specific projects.<sup>3</sup> The Biosphere Soundscapes is a similar initiative that “sits within a portfolio of research that seeks to extend and expand acoustic ecology as an inclusive, socially engaged, accessible, interdisciplinary field that can inspire communities to listen to the environment.”<sup>4</sup> She has achieved this by working with UNESCO to promote biological conservation and cultural diversity through field recordings taken all over the world.

Bernie Krause and David Monacchi have used their databases of recordings to preserve sounds that no longer exist. Krause has spent the majority of his life capturing habitats through field recordings. These recordings highlight multiple layers of soundscapes sources, which he identifies as:

- Geophony: non-biological sounds that occur in any given habitat (e.g. wind or waves)
- Biophony: sounds generated by organisms in a given habitat
- Anthropony: sounds generated by humans<sup>5</sup>

He often records the same habitat multiple times over the course of several years to capture the changes taking place over time. During a TED Talk presented by Krause in 2013, he was able to show an audience these changes by using field recordings he collected of Lincoln Meadow. Most of the changes involve a reduction in sounds produced by natural organisms and an increase in

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<sup>3</sup> Ibid,146.

<sup>4</sup> Barclay “Listening to Communities and Environments,” 157.

<sup>5</sup> Bernie Krause, “Bernie Krause: The voice of the natural world,” Ted Talk, July 15, 2013, 2:01, <https://www.youtube.com/watch?v=uTbA-mxo858>.

human sounds, which in this particular example was a result of logging in the area.<sup>6</sup> They are so radically altered that unless you hear the recordings side by side, you might not notice the disappearance of such sounds. Monacchi's initiative, *Fragments of Extinction*, is similar in that it also preserves sounds of now-extinct sounds that once signaled thriving ecosystems. *Fragments of Extinction* is a non-profit organization sponsored by Greenpeace that focuses on collecting field recordings from equatorial regions like the Amazon, Borneo, and parts of Africa. Monacchi uses these recordings for interdisciplinary research projects as well as his own ecoacoustic compositions. One such composition is his "Eco-acoustic Theatre," a permanent installation in Denmark's Natruama Natural History Museum. It is a hemispherical 3D soundscape that displays the frequencies and durations of sounds as they move around the screens that line the theatre. There are chairs positioned in a circle in the center of the space while multiple speakers hang from the ceiling designed to fully immerse the members of the audience. The sounds in this installation, like many of the recordings captured by Monacchi are used to show how ecosystems that have been developing over millions of years are rapidly disappearing.

Other sound artists/activists include Andrea Polli, David Dunn, and Philip Blackburn, all of which—including Barclay, Krause, Monacchi, Adams, and Burtner—have essays on their philosophies and music in *Environmental Sound Artists: In their Own Words*. The scope of their collective works in conjunction with global-warming-related efforts could be the subject of a separate thesis unto itself. Burtner himself even has his own non-profit organization called Ecosono, whose mission is to "cultivate a close and productive relationship with people and the places they inhabit."<sup>7</sup>

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<sup>6</sup> Ibid, 4:17.

<sup>7</sup> "Mission," EcoSono, <http://www.ecosono.org/mission/>.

Alaska may be the last frontier, but it has not been the last place to exhibit any signs of climate change. It has been gradually accelerating over the past several decades, with the summer of 2019 witnessing record-high temperatures.<sup>8</sup> The music of Adams and Burtner eschews any direct political statements but does allow their music to occasionally be contextualized in such conditions (e.g. *Siguivik* at the GLACIER conference). It is still intended to evoke rather than provoke. However, by doing so, it might allow audiences to reconsider how their lives are impacted by nature and how they in turn might be impacting their surroundings. It is not an indictment of any individuals' potential transgressions, nor is it necessarily a call to action, but rather a recontextualization of the role in which these environments play in our everyday lives. Despite any potentially negative connotations related to any music that closely associates itself with political messaging, both Adams and Burtner clearly attempt to separate their politics from their music. After all, Adams used to work as an activist when he first moved to Alaska and Burtner has his own non-profit organization devoted to using art as a method for raising awareness.

However, at the end of the day, their *oeuvre* celebrates the earth, remarking on both its beauty and its fragility. Burtner's interest in myriad scientific fields (biology, geology, and ornithology) has permeated his work. For Adams, his opening chapter in *The Place Where You Go to Listen* reveals a newfound understanding and appreciation for the ways science and art can intersect with each other:

Science examines the way things are. Art imagines how things *might* be. Both begin with perception and aspire to achieve understanding. Both science and art search for truth. Whether we regard truth as objective and demonstrable or subjective and provisional, both science and art lead us toward a broader and

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<sup>8</sup> Matthew Cappucci and Andrew Freeman, "More freak weather comes to Alaska, which has had an unprecedented summer," *Washington Post*, August 16, 2019, <https://www.washingtonpost.com/weather/2019/08/16/more-freak-weather-comes-alaska-which-has-had-an-unprecedented-summer/>.



deeper understanding of reality. Even as they augment our understanding, science and art heighten our sense of wonder at the strange beauty, astonishing complexity, and miraculous unity of creation.<sup>9</sup>

Despite Alaska appearing vast and mysterious, Adams and Burtner manage to make it seem familiar. In fact, understanding their music allows one to realize that their own landscape is just like Alaska. It may not have the endless tundra or the snow-capped mountains, but one's surroundings are most likely replete with sounds previously neglected or unheard. They continue to be open-minded, allowing their music to take many forms, which in turn illicit different evocations of place and thus different interpretations of place by audiences. The music of Adams and Burtner echoes in all of our backyards, waiting for you to listen.

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<sup>9</sup> Adams, *The Place Where You Go to Listen*, 10.

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