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Destination Freedom: Strategies for Immersion in Narrative Soundscape
Composition

A dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Philosophy

in

Music

by

Yvette Janine Jackson

Committee in charge:

Professor Anthony Davis, Chair
Professor Anthony Burr
Professor Amy Cimini
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2017

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Chair

University of California, San Diego

2017

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ABSTRACT OF THE DISSERTATION

Destination Freedom: Strategies for Immersion in Narrative Soundscape

Composition

by

Yvette Janine Jackson

Doctor of Philosophy in Music

University of California, San Diego, 2017

Professor Anthony Davis, Chair

This is a written defense of *Destination Freedom*, a radio opera and narrative soundscape composition that begins in the cargo hold of a ship trafficking Africans to the Americas and traverses time in search of freedom. Narrative soundscape composition is a classification of electroacoustic music and a research method used to engage historical events and social issues; it is

a way to bridge creative practice and scholarship. Radio opera is a type of electroacoustic composition designed to be experienced in darkness in order to animate the theatre of the mind and, as such, borrows strategies for immersion from American radio drama. This text begins with an autoethnographic account of how narrative soundscape composition became my primary praxis followed by an explanation of radio drama as a model for using text, darkness, and spatialization in electroacoustic composition. After a description and analysis of *Destination Freedom*, the conclusion suggests broader applications for narrative soundscape composition beyond my personal practice.

Introduction

There were no rules to follow – one made his or her own rules. -Jon Appleton

Background

Destination Freedom is a 22-minute electroacoustic composition that places the listener in the cargo hold of a ship delivering Africans to the Americas and transforms into an adventurous search for freedom. I have used the terms “narrative soundscape composition” and “radio opera” to describe this work. Narrative soundscape composition is a classification of electroacoustic music and a research method used to engage historical events and social issues; it is a way to pivot between creative practice and research. Multiple iterations of *Destination Freedom* were realized as an empirical approach to uncovering how technologically mediated experiences affect one’s engagement with the narrative. This text begins with an autoethnographic account of how narrative soundscape composition became my primary praxis followed by an exegesis of *Destination Freedom*; the conclusion suggests applications for narrative soundscape composition beyond my personal practice. This introduction identifies the significant episodes that helped form the research problems addressed through narrative soundscape composition.

Episode 1 – Columbia Princeton Electronic Music Center

In the 1990s, as an undergraduate student, I began participating at the Columbia-Princeton Electronic Music Center during an important time in the facility's history; Brad Garton was in the process of transforming it into the Computer Music Center. Before I began programming on NeXT and SGI computers, I was using oscillators and VCAs to explore timbres and cutting and splicing tape into rhythmic phrases. This experience of physically rearranging the structure of music led to my tactile approach to composition. I began incorporating news soundbites, synthesizing low frequencies, and sampling music in to narrative compositions. The non-linear narratives of my current works are influenced from this period with tape music –cutting, splicing, and physically rearranging sounds -although I primarily work with digital audio workstations (DAW).

Episode 2 – San Francisco Bay Area Theatre

Throughout the following decade in the San Francisco Bay Area, several activities piqued my curiosity about site, audience experience and engagement with narrative: playing trumpet with Ray's Vast Basement; working as a soundboard operator and sound designer for theatre and radio drama; and being the production director for religious and secular events at the largest Episcopal cathedral in the western United States.

Ray's Vast Basement (RVB) is more than a band; its front man Jon Bernson brought to life a realm of mysterious characters and elaborate stories

through live performances in bars, theatres, radio stations, and record shops. This transmedia project is epitomized by the release of the second album *On the Banks of the Time* which was accompanied by a set of 60 cards that mapped out the 100,000,000-year fictitious history of Ray McKelvey and the speakeasy easy called Ray's Vast Basement that he ran out of a cave in the invented town of Drakesville, California. This "musical fiction" manifested in the form of cassettes, CDs, and performances including tableau vivant, and interactive elements. At a CD release party in Point Reyes, California, a bar was transformed into a makeshift speakeasy and dramatizations were realized by musicians and actors.

RVB began as a solo project in the late 1990s and expanded into a band that recorded and toured around the U.S. Bernson led the group as singer-songwriter, guitar player, engineer, and artist. During my affiliation with the band, the other members included David MacGillis on percussion, Chris Linnevers on drums, Ian Walsh and later David Jerome Moore on bass, and Andy Crocker on guitar. Ray's Vast Basement was an intricate network of fantasies realized through musicking and theatre; the presence of extramusical elements such as actors, costumes, props, and site-specific performances are inseparable from the music. Ray's Vast Basement practiced and recorded in a storefront on 24th Street and Bryant; the sounds of busses, passersby, homeless neighbors, and car stereos infiltrated our space. Rather than mitigate these sonic intrusions, they were welcomed as a part of the music.

I left RVB to concentrate on traditional theatre. The first time I ran sound for a show was in 2001; I had been frantically recruited from the box office of Magic Theatre in Fort Mason. Barbara Damashek was directing Moira Buffini's *Silence* for which David Molina has composed an elaborate soundscape that underscored most of the play's 2 hours and 40 minutes. There were multiple playback units including MiniDisc and CD players with which I executed a continuous flow of consecutive, overlapping, and interwoven cues. Although the first few shows were riddled with sonic miscues, surviving the 4-week run of the play was another step towards my desire to compose theatre.¹ I was drawn to the mixing board as an instrument and was inspired by the musicality of the coordination of several fixed media playback devices. Actors, sound effects, soundscapes, music, and live performance were envisioned as musical material for composition. Play after play, I studied not only the sound in relation to drama, but the audience in relation to the space, the liveness, and engagement with spectacle.

As I transitioned from operating the soundboard to designing sound and composing music for theatre, I learned from trial and error, applying the knowledge I had gained by executing the cues of other designers and avoiding their mistakes. I joined Pagliacci's Fools, a radio drama collective headed by Kevin "Vinny" Beachem. We performed radio drama in front of audiences at

¹ The distinction between composing theatre and composing *for* theatre should be noted. The former indicates an intentional organization of dialogue, sound effects, music, sound effects, and lights.

Alice Arts Center and broadcast live from a studio at KPFA, further reinforcing the concept of the mixing board and playback devices as musical instruments. Text and Foley were important elements that were added to my collection of musical resources. One of the first sound designs I did was for a play called First Love at the Magic Theatre written by Charles Mee and directed by his daughter Erin B. Mee. Mee's plays are assembled from found texts; this technique is my primary method for constructing the libretti for my narrative works.

I approached my term as the webcast and production director at Grace Cathedral as an opportunity to gain hands-on experience studying the counterpoint between light and sound, performance space and acoustics, and the dramatic use of sound and music. The daily tasks of reinforcing, recording, mixing, broadcasting, and editing spoken word, the men and boys choir, chamber ensembles, and the rumbling 7466-pipe Aeolian-Skinner organ inspired new questions about space, acoustics, and rituals.

Episode 3 – Alpine Desert

I escaped the windowless blacked walled cathedral studio and relocated to the wilderness of the Sangre de Cristo Mountains in southern Colorado. As I was acclimating to the new soundscape, investigation into the sonic and dramatic elements of ritual continued to progress with my roles as production director and consultant for Buddhist organizations, whose practices of silent

meditations and darkness meditations motivated a deeper curiosity of sound and light. I made field recordings of creeks, ranch animals, and other sounds indigenous to the area. This ecological approach to listening and engaging with sound formed the basis of what would get further developed through academic research.

These early episodes can be summarized by the following events: I developed a tactile approach to electroacoustic composition by working with magnetic tape. Soundbites, found texts, synthesized and concrète sounds, and instrumental music became the source materials for my narrative compositions. Composing theatre and transmedia narratives became primary objectives of my artistic practice. Understanding the effect of text, sounds, lights, architecture, ritual, and other elements on the audience's relationship with the story emerged as an intentional focus of my musicking. Field recordings became an instinctive way of documenting my changing relationship with the environment. These curiosities eventually matured into the research questions addressed herein.

Episode 4 – Questions formed Outside the Ring

In his history to the auditorship of stereo sound, Tony Grajeda asks, “Who among us would not want to be in the ‘sweet spot’?” Between March and September 2017, I attended over 40 concerts and installations at 7 conferences and festivals either devoted to or featuring programs dedicated to electroacoustic music as a participant and observer. (See Table 1.1) In addition

to seeming like a visible “outsider” in terms of gender and ethnicity/race represented at these events, I intentionally placed myself at the periphery of these concert experiences by seating myself outside of the ring of speakers, at the edges of the multichannel concert spaces. I casually investigated the politics of this coveted “sweet spot.”

The refrain from the festivals attended in 2017 questioned the future of electroacoustic musicking: is it still a form of experimental music? This is the theme of the 2018 EMS conference; the panel at Tonband 2017 at Audiorama was “The electroacoustic music field -what’s new;” and the conversation at the Borealis Festival was “Beyond Afrofuturism: Revolutionary Tendencies in Black American Culture.” These questions, were in part, a response to the homogeneous programming and output heard at electroacoustic musicking festivals. The experimentation that was characteristic of this music in its early stages appears to be lost as tools and techniques have become standardized in academic programs and students devote time to mimicking the works of their teachers rather than searching for a unique sonic identity.

This work started as a search for an African American aesthetic -or more specifically, a black, gay, female aesthetic. Unlike the aims of Black Arts Repertory Theatre during the Black Arts Movement, my initial mission was not to exclusively create “art that speaks directly to Black people,” but to develop an electroacoustic art form that speaks to all people in order to foster conversation about difficult subjects. For example, while workshopping *Swan*, a peer

reviewer relegated the Middle Passage as black history. At the time, I rebutted that the story is American history, but was reminded from European audiences that it is part of world history.

Through narrative soundscape composition, I have attempted to discover an African American aesthetic of electroacoustic music. Since my initial exposure to tape and computer music in the 1990s, I wondered how my voice could be expressed through the manipulation and organization of synthesized sounds and field recordings. While confronting similar questions of identity and electroacoustic musicking, composer Jon Appleton notes that as a student at the Columbia-Princeton Electronic Music Center in the 1960s, he and his peers were expected to follow the lead of composers working within the Center (i.e., Vladimir Ussachevsky, Bulent Arel, Mario Davidovsky, etc.) and to dismiss the musicking of “charlatans” like John Cage and Iannis Xenakis. “There were no rules to follow – one made his or her own rules” (Appleton 67). This was still the doctrine of the Center when I entered as a student some thirty years later. Repeated listening to the works of Ussachevsky, Otto Leuning, and Alice Shields have undoubtedly left an indelible mark on my aesthetic tastes, but turning to history and my own experiences as sonic material seemed an intuitive way to express my unique contribution to electroacoustic music.

Dramatic narrative is present in my earliest electroacoustic compositions from the mid-1990s which developed further in the following years where I participated in theatre and radio drama communities. During this time, hearing

John Cage's "The City Wears a Slouch Hat" episode of *The Columbia Workshop* influenced my desire to compose radio drama and to push the limits. It was the trigger that catapulted this artistic mission. When I was introduced to the works of Swedish text-sound composer Åke Hodell, who composed his works in an abandoned radio drama studio, I began to look for more connections between radio drama and electroacoustic music production.

Composing and performing *Destination Freedom* allowed me to address several concerns simultaneously: Is there an African American aesthetic of electroacoustic music? If so, what does it sound like? Narrative soundscape composition is the convergence of electroacoustic music and radio drama; how can radio drama serve as a model for narrative soundscape composition? How do darkness and spatialization influence the listener's engagement with narrative in electroacoustic music? How can narrative soundscape composition be of value beyond my personal practice?

Structure of Chapters

In order to comprehend narrative soundscape composition as a whole, this text examines its interrelated components: historically, it is a part of a greater genealogy of electroacoustic musicking; aesthetically, it is an artistic practice of composing; technically, it is the manipulation of text, darkness, and spatialization; aesthetically, it is a fixed-media performance with the potential for live elements; it is a research methodology; and it is a pedagogical tool.

Throughout this text I adapt Christopher Small's neologism "musicking" to simultaneously address all the elements of the electroacoustic ecosystem. While Small originally referred to his study on orchestral music in the concert hall, "electroacoustic musicking" is a necessary term because the processes of composing, listening, and performing cannot be separated from the music. Electroacoustic musicking is a composite of the initial idea, the decisions of the composer and her tools, festival curators, venue acoustics, audiences, the distribution chain, and other forces.

The dissertation composition *Destination Freedom* is included as a Supplemental File on a DVD containing a binaural stereo recording, a 5.1 mix of the concert version, sketches from the installation rendition, and *Swan* which served as a model. Chapter 1 introduces narrative soundscape composition as a creative practice and research method. Chapter 2 suggests radio drama as a model for electroacoustic composition. Chapter 3 describes the composition and performance history of *Destination Freedom* and its predecessor *Swan*. Chapter 4 concludes with broader applications for narrative soundscape composition beyond my personal practice.

Table 1: Participation in electroacoustic music festivals in 2017.

Date(s) in 2017	Event	Location	Description
February 4	AMT Festival	San Diego, CA	Panelist on Data Visualization and Sonification presenting Narrative Soundscape Composition as a method of sonifying history
March 8-12	Borealis Festival	Bergen, Norway	"A festival for experimental music." Higher order ambisonic versions of <i>Swan</i> and <i>Invisible People</i> presented. Panel on Afrofuturism
April 20-22	SEAMUS 2017	St. Cloud, MN	<i>Swan</i> octophonic
April 27-29	BEAST FEaST	Birmingham, UK	Presentation "Listening in Darkness"
June 19-25	NYCEMF	New York, NY	Presentation on radio drama as electroacoustic music
September 7-9	Tonband 2017	Stockholm, Sweden	Fixed media festival, premiere of <i>Destination Freedom</i> (5.1, missing vocal), panel on the future of electroacoustic music

Chapter 1: Narrative Soundscape Composition

The term narrative soundscape composition is rooted in the tenets of soundscape composition developed by members of the World Soundscape Project (WSP) at Simon Fraser University in the 1970s. The research group's "pedagogical intent" was to increase soundscape awareness, and soundscape composition was defined as "a form of electroacoustic music...characterized by the presence of recognizable environmental sounds and contexts, the purpose being to invoke the listener's associations, memories, and imagination related to the soundscape."² Barry Truax proposed soundscape composition as a heuristic means of accelerating understanding about the environment and established four principles:

- Listener recognizability of the source material is maintained
- Listener's knowledge of the environmental and psychological context is invoked
- Composer's knowledge of the environmental and psychological context influences the shape of the composition at every level
- The work enhances our understanding of the world and its influence carries over into the everyday perceptual habits³

² Truax, Barry. "Soundscape Composition." www.sfu.ca/~truax/scomp.html

³ Ibid.

As a way of connecting narrative soundscape composition to existing practices of programmatic electroacoustic music, I have synthesized concepts from Truax, Luc Ferrari, radio drama, and my own aims into the following principles:

- Moves freely along the spectrum between abstract and recognizable concrete source material
- Moves freely along all points of the acoustic continuum of speech, music, and soundscape
- Carefully incites the listener's imagination, awakening the theatre of the mind
- Engages strategies of immersion to help suspend the listener's disbelief within the narrative
- Enhances understanding of historical and social issues

The World Soundscape Project was initially focused on bringing awareness to the environment and mitigating the negative impacts of our changing world. Narrative soundscape composition departs from the WSP's objectives by using composition to create a dialogue between the composer and listener about historical events and social issues. It borrows strategies from radio drama in order to engage the listener with text, darkness, and spatialization. Through narrative soundscape composition I seek to:

- discover an African American aesthetic of electroacoustic music
- investigate how identity (and the intersectionality of identities) is manifest through sound and music technologies

-experiment with text, darkness, and spatialization as tools for creating immersive experiences that ask the audience to engage with historical and social issues

Programmatic Electroacoustic Music

I use narrative soundscape composition to describe my radio operas and sound installations. It has developed into an activity that allows me to pivot between theory and practice; knowledge is produced through heuristic experimentation and analysis. The term allows me to unify and connect my compositions to a heterogeneous body of narrative musical practices explored by other composers (e.g., John Cage's composed radio plays; Luc Ferrari's anecdotal music and Hörspiele; Åke Hodell's text-sound compositions and hörspeler; Trevor Wishart's sonic art; and Michel Chion's melodramatic concrète music). A composer may not be aware of how the works will be categorized at the time they are created. Some of these narrative concepts are outlined in the following paragraphs.

Jon Appleton describes his works released in the mid-1960s as "storytelling pieces, programmatic electroacoustic music, films for the blind, dreams heard where sound events are scrambled or as melodramas in the 17th and 18th century sense of the term" (Appleton 68). While he was in the studio, he had no clear compositional plan; his process was led by experimentation. Only in retrospect of thirty years was he able to identify a specific style of music that had clearly departed from the ideals of musique concrète. Through

heuristic composition, with the tape recorder and studio as his instruments, Appleton not only succeeded in exploring the “malleable and elastic nature of natural sound sources” (Appleton 67), but confronted the challenge of discovering and expressing his own voice, or identity, through electroacoustic musicking.

My approach to composition is shaped by the philosophies of the same institutions that influenced Jon Appleton and his student Bill Brunson. Both composers developed techniques during their respective times in the studios of the Columbia-Princeton Electronic Music Center and by the text-sound composition that emerged from Stockholm in the 1960s. In addition to his involvement with Sveriges Radio (Swedish Radio) and the experimental arts organization Fylkingen, Appleton was the director of Elektronmusikstudion (EMS) before becoming a co-founder of the International Confederation for Electro-Acoustic Music and the Society for Electro-Acoustic Music in the United States in 1984.⁴ Fylkingen, Sveriges Radio, and EMS share responsibility for the development of experimental music incorporating text, sound effects, and synthesized sounds by providing a community, studio space, performance venue, and broadcast support of new music. Bill Brunson, part of the second generation of text-sound composers, uses the term “music for your ears” to describe his electroacoustic output. He is, at the time of this writing, the

⁴ <https://www.seamusonline.org/about/>

professor of electroacoustic music and the studio director for Kungliga Musikhögskolan (The Royal College of Music) in Stockholm and worked at Sveriges Radio and served as the artistic director of Fylkingen.

Part of Michel Chion's repertoire is labelled "Melodramatic concrète music." His research calls into question sound objects, acousmatic listening, and the relationship between image and sound. These concerns are addressed in his writing, films, and compositions demonstrating the continuum between research, creative process, and electroacoustic works that is the foundation of narrative soundscape composition.

Luc Ferrari's "anecdotal music" was another departure from the Schaefferian philosophies of *musique concrète*, marked by his 1963 composition *Hétérozygote*. Ferrari remarked in an interview, "I listened to all these elements I had collected outdoors, and I thought these sounds developed a discourse that had something to do with *narration* [emphasis added]" (Caux 129). Substituting "narration" with "narrative" may offer a more accurate translation.⁵ Like what would later be labeled soundscape composition, Ferrari's pieces maintained the recognizability and psychological association of source material. He treated his sounds like images and considered his approach to be closer to visual arts than music (Caux 131). Anecdotal music and narrative soundscape composition share in common the "possibility of

⁵ Caux's interview with Ferrari contain imprecision in the translation that impact the meaning of the text. For example, "this" is used in lieu of "these" and "in" in place of "of." 129-130

initiating dialogue between the abstract and the concrete” and both are “sound films that you [can] only see in the mind’s eye” (Caux 129).

Narrative

The decision to use “narrative” as a qualifier for soundscape composition may cause confusion because of the subtle differences in meaning used in various disciplines. Ambiguities could be avoided, perhaps, by substituting “narrative” with “story” or “drama.” One definition of “drama” suggested by Jon Appleton is “any series of events having vivid, emotional, conflicting, or striking interest” or “[conveying] a rather specific mood, [giving] rise to laughter or fear” (Appleton 68). In comparison to the Oxford English Dictionary definition of “narrative”, “an account of a series of events, facts, etc., given in order and with establishing of connections between them; a narration, a story, an account,” Appleton suggests that the outcome (e.g., change in emotion or mood) is as important as the sequence of events. Curtis Roads states that only one sound is needed to create a narrative. “A drone invites internal reflection and meditation. A doorbell alerts a household. An obnoxious noise provokes immediate emotional reaction. Silence invites self reaction. An intense sustained sound commands attention” (Roads 319). In narrative soundscape composition, the composer presents a series of sonic events or moods that the listener is asked to connect in order to create a story. It may also refer to a series of soundscapes that shift the listener’s mood from one state to another.

The relationship between electroacoustic musicking and narrative has been contentious throughout its history. Pierre Schaeffer suggested that sounds be divorced from their meaning in *musique concrète*; however, even if the listener succeeds in not recognizing the composer's original sound source(s), once there are two or more sonic events, the listener will make her own connections to create a narrative. Prior to Schaeffer's post-war treatises on the *objet sonore*, the works of lesser known pioneers of electromusical and electronic music in the late nineteenth and early twentieth centuries like John Baptiste Schalkenbach, Clement Ader, Alfred Graham reveal a connection between these musical experiments and programmatic music. "Electromusical culture was also inextricably tied to descriptive music, and the aversion to this kind of music among early twentieth-century musicologist tastemakers...added a further impediment to electric music becoming reconciled into later discourses on alliances between music and electricity" (Wilson 156).

Many of my compositions, like *Swan* and *Destination Freedom*, ask the listener to experience the soundscapes on his own terms rather than be given a prescriptive narrative. This requires the participation of the listener; imaginative listeners are able to build their own stories from the sounds. Although titles and brief program notes serve to guide my compositional structure and to facilitate academic discussions of my work, I prefer to keep the narrative hidden from the listener so that he may come up with his own experience of the music. Narrative soundscape composition is dependent upon certain literary concepts; just as

descriptive language helps the reader to build the images, sounds, and smells in his imagination, so does narrative soundscape composition. Both of these media are active, requiring the participation of the listener or reader: the participant must envision the characters, hear the voices, creates the scenery, etc. This is best achievable when the author has designed a compelling episode, rich in details. Success is marked as “the pleasurable surrender of the mind to an imaginative world” (Murray 110). In *Radio Drama Theory and Practice*, Tim Crook borrows Chion’s vocabulary to talk about radio drama sound.

In composing narrative soundscape composition, I think in terms borrowed from film, radio drama, and television: diegetic and non-diegetic. This language helps during the composition process to distinguish between the sounds that the characters can hear and those used to create emotional shifts in the audience. In *Destination Freedom*, the non-diegetic music at the opening is used to set the tone and prepare the listener for what is to come. As the soundscape transitions to the cargo hold of the ship, the listener becomes a part of the story and the sounds function diegetically.

Heuristic Research

As a methodology, narrative soundscape composition uses composition, listening, and analysis to make claims about the aesthetics, techniques, the politics of immersion, and the potential of narrative to raise awareness of social

issues. By listening to and analyzing radio drama as electroacoustic music, effective techniques for enriching composition and keeping the listener engaged through compelling storytelling can be adapted.

Many frameworks that propose composition as a means for advancing research have been suggested. John Levack Drever recommends soundscape composition as ethnography. His arguments illustrate how ethnography can help soundscape practice progress “in a relevant and socially functional way, which reflects the complexities of today’s cultures...This could mean a greater reflexive mode of operation for the composer, questioning and divulging what he or she may previously have regarded as givens” (Drever 25). *Destination Freedom* is concerned with presenting and representing environments as historical and futuristic fiction. This is precisely the type of composition that Drever claims is served by ethnography. Rather than centering on aesthetics, an ethnographic approach to soundscape redirects the focus to the “making of representations and consequently power relations” (22). This methodology suppresses any aesthetic and artistic tendencies in favor of social and political ones; narrative soundscape composition celebrates the creative act because of its power to be in dialogue with the technical and the political.

James Andean argues that understanding the construction of narrative requires someone in the dual role of listener and composer. The most expedient way to understand acousmatic narrative is simultaneously through

creation (the composer's poetic act) and reception (the listener's aesthetic act). Because the composer is poised to do both, narrative soundscape composition is central to the feedback loop that propels and interlocks my creative practice and research. Through the interwoven process of composition and analysis of radio drama, soundscape composition provides both a theoretical framework and model for immersion which can inform the techniques available to composers in order to enhance the listener's engagement with the narrative.

Electroacoustic Listening

Narrative soundscape composition emphasizes the act of listening as an essential part of the composing and performance phases. It provides opportunities to direct the listener's attention towards soundscapes of the past, present, and future. For the contemporary attendee of electroacoustic concerts, the attention may be divided between the architecture of the venue, the spectacle of the loudspeaker configurations, the curation of the event's program, the sounds, meaning, and diffusion of each soundpiece, the program notes, etc.

At a modern concert, there are bound to be a mixture of listeners with various skills/experiences of appreciating electroacoustic music. Some may be enthusiastic about pieces in which sounds seems to swish meaninglessly around the listener's head; others may be drawn to constructing narratives out of the sequences of sounds. Some may be utterly confused by the lack of

detectible rhythm, structure, or familiar timbres. Schafer suggested a “much-needed history of aural perceptions to show us how different periods of different musical cultures actually hear different things when listening to music.”⁶ Even within the same period and same musical cultures audiences at the same event are bound to hear different things. Narrative soundscape composition counts on these phenomena -because the fact that each listener’s imagination will offer a unique interpretation of the soundscape- that is where the magic happens. The listener is just as much a part of the composition as the composer; it is a collaboration between the two.

⁶ See Schafer, *The New Soundscape: A Handbook for the Modern Music Teacher*

Chapter 2: Radio Drama as Electroacoustic Music

A story doesn't have to appeal to the heart, it can also appeal to the spine. Sometimes you want your heart to be warmed and sometimes you want your spine to tingle. -Orson Welles

Narrative soundscape composition is a union of electroacoustic music and radio drama; both histories are relevant to understanding its formation as a distinct practice and offer insights on differing attitudes towards the value of narrative. The term “radio opera” is used to describe the genre of *Swan* and *Destination Freedom*. Radio opera is not necessarily music intended to be broadcast over the airwaves but is music that alludes to the Golden Age of radio drama when content was produced with the desired effect of creating images in the mind of the listener. Radio drama serves as a model for electroacoustic music because through experimentation, text, music, and sound effects are composed into a compelling adventure.

Experimentation is a key component of the dramatic broadcasts of the late nineteenth through the mid-twentieth centuries. These early examples are connected to telephony, but soon find a home over the “ether.” In Europe, composers occupied the same studios as producers of drama. State sponsored radio provided opportunities not found in the commercially sponsored radio studios in the United States. European artists were

encouraged by institutional support and access to tools that allowed them to explore the potential of the airwaves. The following sections highlight key traits of the development of radio drama that are suited to developing rich narrative soundscape compositions. Prior to radio broadcasts in the 1920s, experimenters have manipulated text, darkness, and spatialization to captivate audiences.

The connections between radio drama and electroacoustic musicking are more obvious in Europe –many of the electroacoustic music studios and radio stations were state funded facilities. In the United States, the focus of commercial radio was to increase advertising scales not to provide an outlet for experimentation. Irving Reis at the Columbia Broadcasting System was in a unique position to break these rules. He headed a sustaining program, one that was not subject to censorship or controlled by the aesthetics of advertisers who provided financial sponsorship. He encouraged inclusive collaboration that involved contributions from up and coming actors, writers, composers, building secretaries, maintenance staff, etc. Reis's model, as well as other sustaining programs during the Golden Age, encouraged:

- inclusive collaboration (diversity)
- darkness (acousmatic listening)
- the use of the studio as a creative instrument
- interactivity between the creators and the audience
- audiopositioning of the listener

Radio drama is a collaborative musical composition made from source materials ranging from points along the acoustic continuum: speech, music, and soundscape. Radio drama and electroacoustic music developed independently, but by intersecting these histories, the commonality between sources materials, studio, and production techniques can be better examined. The studio has two functions: it is a tool for composers and it is an organization whose politics influence the music that is created within its walls. Radio drama, at least in its early history, rarely had a single composer like its electroacoustic counterparts, but were the results of collaboration between director, writer, actors, composer, musicians, sound effects artists, and technicians. Narrative acousmatic and radiophonic compositions shared similar source material, but spanned the spectrum from abstract to concrete more freely than radio plays. Examples of these genres include composed radio plays, anecdotal music, Hörspiel, and text-sound composition. Many of these works blur the line between radio theatre and music.

Three eras of radio drama are marked by significant technological advances that influenced the direction of radio drama and music created in shared or similar production studios. The Golden Age of radio, ranging from the 1930s-1950s is characterized by live performance, monaural broadcasts, transcription discs, and an experimental attitude. Although magnetic tape was

introduced during the Golden Age, its influence was widespread during the Television Age, 1950s-1980s. Competition with the audio-visual medium of television prompted radio drama proponents to extend the life of radio drama by introducing stereophonic techniques to attract young listeners. Stereophonic and quadraphonic techniques were embraced by composers who were producing works in radio drama production facilities. The Internet Age, 1990s-today, marks a shift from institutionally supported productions to independent productions realized in low-budget studios or home studios. Many of these works are developed with a do-it-yourself mentality and, except for the influence of small affinity groups, created insulation. This period is also marked by binaural and multichannel compositions and influenced by cinematic production techniques. By considering the histories of radio drama and electroacoustic music in tandem, the repertoires of both practices are expanded and a foundation for continued exploration of radio drama as electroacoustic music is encouraged.

Pre-history of Dramatic Broadcasts

By the 1890s, teleperformances could be heard by patrons, including hospital patients, in England and the United States. Thaddeus Cahill tried to market live electronic music via the telephone network. He began designing an electrical music machine in 1884, but the patent was not filed until 1896 (Holmes 33). Of Cahill's many ideas, the desire to send "live" electronic music

is important in relation to radio drama history. Liveness was an important aspect of the early days of dramatic broadcasts. Here marks an interesting starting point for the history of radio drama as electroacoustic music: before the techniques associated with *musique concrète* and *elektronische Musik* came into practice, people were beginning to listen and engage their imaginations in a new way. The interweaving of dialogue, music, audience responses, odd sounds, and distant effects could be heard as composite works received acousmatically over headphones or loudspeakers. In order to compensate for the absence of spectacle, the listeners had to create the appearance of the characters, sets, costumes, movements, and venue in their own minds.

From its infancy, radio drama, was an experimental practice and it drew attention of the many who envisioned the potential of dramatic broadcasts sent out into the “ether.” Radio enthusiasts were not just interested in the capability of the medium for information and entertainment, but its use in aviation, marine navigation, and medicine. The vacuum tube and radio electronics to the invention of new musical instruments (Holmes 41). In the decade following Luigi Russolo’s manifesto on noise, composers like Arnold Schoenberg, Edgar Varèse, and Béla Bartók, were distancing themselves from tradition and braving new sounds, techniques, and radiophonic attempts. The ether intrigued artists as much as it did scientist. Leon Theremin originally named his eponymous device the “etherophone” and its invention coincided with the first regularly

scheduled broadcasts in the 1920s that were taking place in Europe and North America.

Prolific wireless experiments took place in the 1920s and 1930s until they were disrupted and later redefined by the Second World War. In Germany, experimentalism evolved in three phases: radio extended the stage as a theatre for the blind, collaborators began to create specifically for the medium, artist began to understand radio as an “acoustical art” distinct from its literary and theatrical precedents (Cory). In the 1930s and 1940s, the Columbia Broadcast System continued to transmit technical and dramatic experiments over the airwaves. After the war, radio was used to rebuild culture. When American radio drama declined to the popularity of television, the British Broadcast Company began to shine with a new caliber of dramatic entertainment. In the 1950s and 1960s, as radio drama production studios began to close, they were usurped by new visionaries. The BBC’s Radiophonic Workshop which, although influenced by Paris and Cologne, developed a unique style. In Stockholm, the poets took control of a retired Sveriges Radio radio drama studio that had been acquired by Elektronmusikstudion (EMS).

The Golden Age of radio used close-miking techniques that created an intimate bond between the listener and the interlocutor. Cinematic boom mics popular in current radio drama productions position the listener as an eavesdropper. Studio practices that link radio drama and electroacoustic music

include: manipulation of live sound, including spoken word, music, and ambience; time manipulation; microphone placement; filtering or subtractive synthesis; echoes, reverberation and other forms of signal processing; transcription of sound onto disc; manipulation of recorded sounds.

Experimentation at The Columbia Workshop

[Intermittent Morse code beeping.] “Testing. 1 2 3 4. Testing. 1 2 3 4.”

Irving Reis launched “a series of radio programs dedicated to you and the magic of radio” on CBS.⁷ Three years earlier an estimated 5 million radios were purchased for the homes since 1930, bringing the nation’s total to 16,809,562.⁸ The intelligibility of broadcasts prior to the Golden Age was not ideal, but the novelty of the wireless kept listeners tuned in. Cross talk was still a common problem across many parts of the country. The Federal Communications Commission (FCC) conducted surveys and performed reception tests while attempting to “[sift] out stations that clutter up the ether and have undesirable programs.”⁹ CBS aimed to prove that it was dedicated to public service and educating, as well as entertaining, its listeners. The network’s main competitors were NBC Red, which was the first national network and established a year before CBS, and NBC Blue (which eventually was dissolved and turned into the

⁷ This was the standard opening for *The Columbia Workshop* in its inaugural year.

⁸ This is based on data from 1930 radio census conducted by the U.S. Census Bureau and a survey managed by CBS. NA. “1933 Survey Reveals 16,809,562 Radios.” *Broadcasting*. March 1, 1933.

⁹ The MICROPHONE’S Special Washington Correspondent. “‘Cross talk’ of Stations Is Recorded.” *The Microphone*. November 23, 1934. Web. 20 March 2016.

American Broadcasting Corporation in 1943). Although my primary focus is on the aesthetics and techniques of studio practices, the listeners' approval, fiscal sponsorship from advertisers, and guidelines of the FCC controlled much of the content on the airwaves.

Reis's Columbia Workshop was a half hour program that featured a combination of technical demonstrations to acquaint the audience to the techniques of radio and experimental dramatics. The broadcasts were meant to "familiarize [the listener] with the story behind radio -both in broadcasting, as well as in aviation, shipping, communication, and pathology- and to experiment in new techniques with a hope of developing new and improved forms of radio presentation, with a special emphasis on radio drama."¹⁰ At the start of the program listeners would be encouraged to provide feedback and the following week comments from the listeners would guide the direction and content of the program. The show opened with a range of topics meant to familiarize the audience with the special features of radio: highlighting the differences in staged versus radio plays, explanations of pitch perception, demonstrations of special techniques for scoring for radio by composers, and descriptions of how the sound effects were made and recorded. The experiments in storytelling were aided by noted collaborations with Lucille Fletcher, Dr. Seuss, Archibald MacLeish, Norman Corwin, Arch Oboler, Orson Welles, Benjamin Britten, Virgil

¹⁰ Transcribed from the first episode of *The Columbia Workshop's* introduction.

Thomson, Béla Bartok, Bernard Herrmann, and John Cage. Not only did Reis attempt to provide opportunities for young and veteran artists, but for secretaries, janitors, mail clerks and other staff were given the chance to write for the show. A lot of important creative teams were formed at the Workshop, including marriage between Lucille Fletcher, who gained fame for “The Hitchhiker” and “Sorry, Wrong Number,” and Bernard Herrmann who both collaborated with Orson Welles.

The Workshop ’s announcer used tone and language to audioposition the listener as close friend or eager student. In the years leading up to World War II, radio was celebrated as the first invention since the Gutenberg press that had the “potential to save the world’s culture.”¹¹ Listeners were reminded by the host that “radio has reduced to area of the world to a split second of time.”¹² The announcer of the Workshop led listeners to believe that people were tuning in on short wave radio in Australia, New Zealand, and the South Pole as he gave a technical explanation of transmitters and receivers. “With the speed of light, it cuts through the barriers of boundary, class, race, and distance.”¹³ While CBS was trying to save culture, the Education Department of the BBC set out to “offer rather than impose culture” (Neibur 6).

The first episode of *The Columbia Workshop* tested the audience’s

¹¹ Intro first episode Workshop.

¹² Ibid.

¹³ Ibid.

engagement with the narrative by presenting two plays: one composed specifically for radio and the other for the stage and recorded with parabolic microphones. The following week the results were in: the audience enjoyed the play captured through parabolic microphone because it enhanced the dramatic reality by allowing the actors the freedom of movement. The preferred aesthetic for most radio drama during the Golden Age would eventually become a close-mic technique captured with a ribbon microphone. For the second episode of the Workshop, the engineers experimented with placing microphones along Broadway in order to capture ambience for the evening's play entitled "Broadway Evening." This "impressionistic" play "[had] no plot," but tested the audience's attention for new narrative types. This laid the ground for later experiments, including John Cage's "The City Wears a Slouch Hat" which aired in 1942.

Liveness was an important element of radio drama performance until the 1940s and the radio theatre space was modified to enhance the intelligibility of broadcasts. The three CBS studios were featured by Columbia Engineering Department in conjunction with the Workshop in demonstrations of the latest advances in acoustics and recording technology frequently, especially during the first year of programming while under Reis's direction. Listeners learned how and why it was necessary to acoustically treat the studio in order to improve intelligibility of the dialogue and music. The program had a recurrent element of

interactivity. On the first program, the audience was presented two plays within the half-hour format. "A Comedy of Danger" was "written for the microphone" by Richard Hughes and was meant to create dramatic illusions that could not be recreated on stage or screen. This was juxtaposed with Percival Wilde's play "Finger of God," staged exactly as it was for the little theatre,¹⁴ and captured with parabolic microphones so that the actors could move freely. At the conclusion of the show the audience was urged to send in their thoughts as to which performance was more enjoyable. It was announced the following week that more listeners preferred the sound of the parabolic microphone to first performance, which required the actors to remain at a fixed distance in front of the microphone. The former pleased more listeners because it sounded more realistic when the actors were free to move and gesture.

A similar experiment transpired on the eighteenth episode that was recorded in front of an audience of 1100 members of the New York Electrical Society. The first fourteen minutes of the program are dedicated to examples that demonstrate what the room would sound like without acoustic treatment, followed by a comparison of a fixed microphone and a parabolic microphone. The Actors Repertory Company then treats the audience to short play that uses a parabolic microphone, swinging freely on its axis, in order to feature "engineering accomplishments utilized for a departure in dramatic technique."¹⁵

¹⁴ The Little Theatre Movement found a second home on radio.

¹⁵ The Columbia Workshop broadcast explanation.

On air experiments include A B comparisons between a carbon microphone from the 1910s and a “modern velocity microphone”; an omnidirectional dynamic microphone and a modern velocity microphone;¹⁶ a sound microscope is used by Dr. E. E. Freed of New York University to debunk myths about ghosts; and a demonstration of time delay. The host lets the audience in on a “trade secret” explaining that listeners in Australia via shortwave are hearing the program half a second sooner than Americans west of Chicago who experience a delay because of the wires used to send the signal to their local transmitters. The host invites a female actress to exchange lines with him and recite the Gettysburg address as the engineers electrically transcribe the signal. The signal is then sent 2000 miles to Chicago and fed back into the studio while it is still playing the original transcription, resulting in a chorused delay. This demonstrates the aesthetic possibilities achievable through live signal processing.

“I think your Sound Effects man should really go out and make a listening study at 42nd Street and Times Square of the City noises -- or in the factory district if he likes. He will not hear any noises like those constantly mingles with the speakers’ voices.”¹⁷ Many listeners could not comprehend Kenneth Patchen’s disjointed script nor Cage’s elaborate score for percussion when

¹⁶ The dynamic microphone is referred to as “non-directional” and, based on the demonstration of the modern velocity microphone, it had a cardioid or hypercardioid pattern.

¹⁷ Cage Trust site?

“The City Wears a Slouch Hat” aired on May 31, 1942. The spirit of experimentalism was not embraced by all. Although the original broadcast was regarded as a failure by critics and a heartbreaking disappointment for Cage, this episode epitomizes the relationship between radio drama and composition and is the catalyst for my pursuit of radio drama as music. Some enthusiasts lauded the broadcast for having “the nerve to inject expressionism and impressionism on the vast American listening audience.” Others wrote in with elaborate interpretations of Kenneth Patchen’s abstract text. There were many upset listeners: “I cannot resist the urge to flay you through every studio in the building for that perpetration in the name of Drama and the Workshop.”

“Nothing could surpass this piece for weakness of conception, hodgepodge of themes, rambling uncertainty of destination, and plain undramatic development.” “Just what was that half hour of noise on CBS Sunday?”¹⁸ More fascinating than the version that aired was the original two-hundred-page score for actors and sound effects Cage intended the sound engineers to realize. Cage was told that anything was possible, so when one week before airtime the engineers looked at his elaborate thirty-minute sequence of sound effects and told him that it could not be realized, he worked frantically on a new score for 6 percussionists instead of radio effects engineers.

¹⁸ These excerpts were taken from letters archived by the John Cage Trust.
<http://johncagetrust.blogspot.com/2013/10/1942-america-speaks-city-wears-slouch.html>

The original studio broadcast was captured with microphones and transcribed to disc. Instead of a live performance of collected sounds, an assortment of percussion was scored to recreate the sounds of the city: traffic, rain, wind, etc. One congratulatory note from an unidentified smaller station wrote, “it will take some education to make the radio audience appreciate this type of drama.”¹⁹ What is significant about “The City Wears a Slouch Hat” is that it is a radiophonic composition at the end of the era of live broadcasts. Even before the war, but especially during, audio transcriptions were a regular part of studio practice. For practical reasons rather than preservation, these programs were transcribed to discs so that they could be rebroadcast to boost the morale of soldiers overseas via Armed Forces Radio Service (AFRS). Studios moved away from doing two broadcasts per episode, one each for the East and West coasts, and began using the transcription discs for later broadcast. Some artists began to request in their contracts that shows be solely transcribed so that they could spend time with their families or handle multiple projects. This trend quickly changed the aesthetics and practices of radio drama. In the days of live radio, one take was all there was. This required a certain level of professionalism both in front of and behind the microphone. Instead coming into the studio and recording one take live to disc, directors began recording second takes. If there was a mistake on the transcription, the

¹⁹ Ibid.

entire cast and crew was needed to record the entire episode again. Some directors liked to record multiple takes so that they could decide which they preferred before airtime. For some actors, this meant a shift in time management: it was common for actors to be on multiple shows on different networks during the same evening. If an actor had a line in the opening scene on a comedy on one station, he still had time to get across town to be in the final scene of a mystery on another station. This practice was no longer possible once live broadcasts were replaced by transcriptions. Professionalism declined, especially for newer actors who were not familiar with the work ethic needed for live performance, but did multiple takes insure a better quality show? Dramas began to be assembled: pre-recorded announcements, underscore from a library of prerecorded cues, sound effects playable from records, etc. Also, as the age of television dawned, budgets moved away from radio and this assembly method made it possible to produce content quickly and economically.

In the United States, stereo was used in the marketing revival of radio drama albums as a way to attract younger listeners and revitalize interest in the declining art form. Arch Oboler's 1962 album "Drop Dead! An Exercise in Horror!" presented, four tracks on each side, truncated version of dramas released on his Lights Out radio series. Each track was an example of a specific radio horror technique and the stereo reproductions heightened the

jumps: an overview of horror, movie-type horror, suspense-type horror; radio-type horror; comedy-type horror; TV-type horror, science-fiction-type horror; and “the ultimate in horror.”²⁰

The Second Radio Revival in the Internet Age

Independent producers like FinalRune Productions and Campfire Radio create radio dramas without fear of being censored by network or government guidelines. Radio Drama Revival and similar podcasts unite enthusiastic listeners and other independent producers of audio drama. Would-be drama creators dialogue about writing, production techniques, and casting through social media sites like Facebook, LinkedIn, and Twitter. Teams can be assembled with members spread around the world: musicians and actors can record their parts from their own homes and send them to an editor in another location. With the aid of free sound libraries, music loops, a microphone, and audio production software anyone can produce an audio drama or musical album from the comfort of one’s bedroom. All these conditions should result in a community of renegade radio drama artists, but most of these independent producers are devotees of old time radio from the Golden Age and try to follow, successfully or not, traditional production methods.

Darkness and Spatialization

²⁰ Arch Oboler’s introduction to the Drop Dead! 1962 LP

In the Golden Age of Radio (1930s-1950s), Wyllis Cooper produced *Lights Out*, a half hour radio dramatization of tales of horror and the supernatural. Imitated by programs on competing networks, the imperative “lights out!” heightened the listener’s imagination by setting the expectation for terror and by implying that something sinister was lurking in the darkness. “I think that the horror slant is good in radio. On the stage, there is little difference between the horrible and the ludicrous. Radio hits ears only. Listeners build their own pictures.”²¹ This imaginative immersion with the narrative is conducive for composing works of fantasy, science fiction, and horror. Darkness is an essential part of narrative soundscape composition because it is there in darkness, that imagination of the listener-participant creates the characters, landscapes, and action. Darkness and spatialization are often paired in drama and games as a premise for fear. The majority of multichannel or “3D” audio dramas and audio games available today are marketed as horror.

Radio drama during the golden age –monaural listening via speakers on home radios, cars, headphones –sometimes placed in a bowl to amplify for the entire family to enjoy. The suggestion of words and sound effects helped the listeners envision the faces, movements, locations of the characters and scenarios. The absence of multichannel effects did not deter the listener from being captivated by the story for the audiences listening in the 1920s-1950s.

²¹ *Newsweek*, April 20, 1935 quoted in Hand, 2006.

Binocular extend the range, but is monocular. Fixed proscenium seating does not allow audience to see in all directions. Binaural and theatrical surround sound allow the listener to place herself in a sonic field that extends in 360°. This multidirectional spatial awareness partnered with the images produced by the mind render external visual stimuli unnecessary and potentially a distraction from the narrative.

Monoaural acousmatic drama was effective for group and private, individual listening. In the age of television, radio had to work harder to compete with television, especially as young people were seduced by the new platform. Arch Obler, who in the previous decades had implored people to listen with the lights out, was revisiting the classics from the Lights Out program and using stereophonic mixing to produce a greater sense of fear in the listener who was now placed into the same physical space as the characters. These stories make a listener particularly jumpy while listening on headphones as characters slowly approach and suddenly appear at one side or the other.

In the 1970s, multichannel playback on 4-track tape becomes the purview of audiophiles who replaced their stereo systems with quadrophonic ones. During this time, the Ambisonics system was in its early stages in the UK, but did not gain a strong following until the 2010s when it was embraced by VR companies.

The Cinema could offer more elaborate systems of sound design to common citizens. From experiments beginning with Disney's system for Fantasia to Dolby formats to IMAX, etc. these proprietary codecs offered a fidelity on afforded by academic institutions with substantial funding. The Internet Age is marked by an increased number of amateur and independent producers of radio drama. In this do-it-yourself era, multichannel options become affordable and the Internet allows participants to distribute, interact with other producers, provide critical feedback and production tips to ²²others in the community. Examples include Fred Greenhalgh's Final Rune Productions and Radio Drama Revival based in Maine, and The Truth podcast produced by Jonathan Mitchell in New York. Greenhalgh brings "location recording techniques from his from his film background to the production of audio drama."²³ Mitchell's program, although independent, is supported by sponsors, although there is no obvious censorship of content by these companies. They seem to run under the model of affiliates rather the traditional advertisers of radio drama.

Stereo is common for comedies and drama, but binaural 3D audio is used heavily in themes of horror and science fiction. This is, in part, influenced by the BBC who began binaural broadcasting of "immersive spatial audio over headphones" in 2012.²⁴ The BBCs decision was prompted by the increase in

²² Sponsors have included Harry's Razors, Squarespace, and Blue Apron.

²³ <https://www.finalrune.com/about-fred-greenhalgh/>

²⁴ BBC Binaural <http://www.bbc.co.uk/rd/projects/binaural-broadcasting>

audience using headphones to listen to programs via their mobile phones while jogging or taking the train to work. The other type of listeners are commuters who listen to radio and podcasts through their car speakers. Over the past 20 years, the BBC has tested multiple surround sound formats, including 5.1 broadcasts. Surround sound listening in the home requires speakers to be configured in a precise position in order for the sound to be the same as the intended mix. Binaural audio works best when the listener's head and ears are exactly like the recordist's. As delivery systems continue to be improved, radio drama producers continue to explore creating a sense of horror by placing the listener in a three-dimensional environment that simulates a navigable space.

The internet introduces a new type of interaction to contemporary radio drama. CBS in the 1930s encouraged the audience to write in and the following week the host would respond to their requests. The internet allows for more immediate feedback that goes beyond keeping the fans involved with the show, but allows them to become a part of the drama. Of the more prominent endeavors of interactive drama is Atau Tanaka's 2002 Hörspiel for radio and internet commissioned by the radio station Südwestrundfunk (SWR2):

Prométhée Numérique is a participatory acoustic media art work for broadcast. Sounds submitted by internet- and mobilephone [sic] -users form generative materials of anonymous origin. Media streamed into the performance from scheduled artists in different locations contribute to the codes and structures of the entity. This participatory internet activity creates an [sic] living data-organism

that constitutes the continuing evolving component of the project.²⁵

This aesthetic converges the worlds of radio drama and electroacoustic music into a singular interactive experience.

The type of interaction demonstrated in Tanaka's project also manifested as "audio games." The first audio game *Touch Me* was released by Atari in 1974. While the function of some early audio-only games was to make video gaming accessible to visually impaired players, contemporary binaural audio games can also trace their lineage to these online interactions. Many of these games share similar post-apocalyptic zombie tropes and sound similar: moans, screams, bumping into objects, a narrator to advance the plot and guide the listener when he is lost. Audio games are acousmatic compositions and the player, through his in-game actions, collaborates with the game's designers to compose the electroacoustic score.²⁶

Truax proposes octophonic playback as ideal for soundscape composition. There are various approaches, including realism and hyperrealism. Narrative soundscape composition can also be emotive and connotative.

To immerse the player, many virtual reality games depend upon realism and hyperrealism to keep the user immersed. Narrative soundscape

²⁵ The complete audio and scores are available online. <http://www.ataut.net/site/promethee-numerique>

²⁶ Andrew Hugill proposed video games as electroacoustic music; audio games are acousmatic music.

composition creates fictitious worlds that may be disorienting and follow unfamiliar rules. Exploring the overlap between narrative soundscape composition and VR is one of the future directions. Head-mounted displays create an analogous experience to headphones where the listener is isolated, but give the sense of connection by with convergence of immersive sounds and visual stimuli that changes based on movements and actions in the real world.

Interactive installations of narrative soundscape composition afford a shared experience similar to concerts, but do not have fixed seating that privilege one person over another. The people have more agency to move about the space and experience the narrative in their own way. This collective independence could be considered collaborative further establishing collaboration as the future direction of narrative soundscape composition.

Chapter 3: Destination Freedom

In other words, listening to the composition is not just a matter of recognizing specific sounds, but of meditating on them in depth. -Barry Truax

Swan

Destination Freedom is a narrative soundscape composition and a radio opera that evolved from an earlier work *Swan*. Radio opera is a type of electroacoustic composition designed to be experienced in darkness in order to animate the theatre of the mind. It is a meditation on a theme. *Swan* is a radio opera without words that inserts the audience into the narrative in either binaural and multichannel concert mixes. It unfolds in 3 scenes: the cargo hold of a tall ship transporting Africans to the Americas, a disorienting journey that traverses time, and the arrival into the weightlessness of outer space. The original composition is 10 minutes and 45 seconds.

Chord clusters sound from the piano setting a somber tone while accompanied by sustained notes and tremolos on the strings, bass clarinet, and vibraphones. Nearly two minutes of instrumental music linger before attention refocused to the first scene in the cargo hold. Life below deck in the cargo hold is represented by a beating heart, breathing bodies, and the creaks of the wooden vessel. A series of anachronistic fog horns begin to dominate this section one third of the way through the piece and the heartbeat accelerates creating tension. The tall ship transforms into a metallic vessel and the

propeller idles until the clarinet violently launches the vessel into a disorienting journey. The instrumental ensemble returns in this scene. An electronic loop is superimposed on top of the chamber improvisation during the final two minutes of *Swan*. The pulse of the synthesized bass and snare provide a sense of weightless marking the arrival into space and releases the tension of the previous scene. Just as the listener become accustomed to the snare it disappears and the piece ends on a fade out.

Destination Freedom

Destination Freedom premiered at the Tonband Fixed Media Festival at Audiorama in Stockholm, Sweden on September 7, 2017. Although the listening venue is equipped for ambisonic performances, this version was mixed for 5.1 and missing the vocal track which is the climax of the piece. The corrected version debuted, in stereo, on Elektroniskt i P2 Sveriges Radio on November 19, 2017.

Destination Freedom is based on the three main scenes from *Swan*, but in its twenty-two minutes and fourteen seconds, it takes some departures. Dark piano chords accompanied by the 'cello tailpiece bowed hauntingly, and chimes that elude to chains of bondage provide a brief introduction before the opening scene becomes awash in water entering from different sides. The breathing creeps in as the water fades out and the next three minutes are filled with the

ambient sounds of the cargo hold: the unintelligible whispers of male and female prayers in Arabic, competing room tones, creaks and thumps. The low sounds of other ships make their presence known and there is a simultaneous awareness of the inside and outside of the vessel. The ephemeral songs of sirens dissolve into an aquatic nightmare that builds over the next four minutes. Hints of an engine are heard around thirteen minutes but are mostly masked by the warped and mangled sounds of the continuing nightmare. The journey, made from a collage of clicks, pulses, static, distorted hums, and filtered noise, navigates multiple moods. The release comes at the final two minutes of piece as a Negro spiritual floats over the closing loop from *Swan*.

Source Material

Both *Swan* and *Destination Freedom* contain instrumental excerpts from my chamber ensemble Invisible People and resampling of other past projects. Invisible People ensemble is a core group of musicians who attended at least one of three two-day sessions in Studio A at the University of California between 2013-2016. During the sessions, musicians played traditionally notated and visual scores and performed guided and free improvisations. The members, in alphabetical order, include, Tommy Babin (doublebass), Samuel Dunscombe (bass clarinet), Judith Hamann (violoncello), Malesha Jessie Taylor (soprano), Nick Lesley (drums), Kjell Nordeson (vibraphones, percussion), and,

not heard on the samples from *Destination Freedom*, Michiko Ogawa (bass clarinet), Juan Rubio (drums), and Richard Savery (bass clarinet).



Figure 1: Modular synth rack built for *Destination Freedom*.

The traditional instruments are often manipulated to represent non-instrumental sounds (e.g., strings pitched down and time stretched to resemble ships) and conversely the sound effects assume a musical role. Creaking bedroom doors, banging from the heater vents, and underwater field recordings from Mission Bay boat slips and the boardwalk in Pacific Beach are placed rhythmically and in counterpoint with other sounds. DAW-based digital synthesis and the Oberheim SEM-PRO analog synthesizer are heard in *Swan*, but the emphasis is shifted to textures born from a modular rack built specifically for *Destination Freedom* (see fig. 1). The featured modules include Soundhack Morphagene, Make Noise Maths, and the EMW Noise Station. These tools facilitate the tactile generation and manipulation of new sounds without being tethered to a computer monitor.

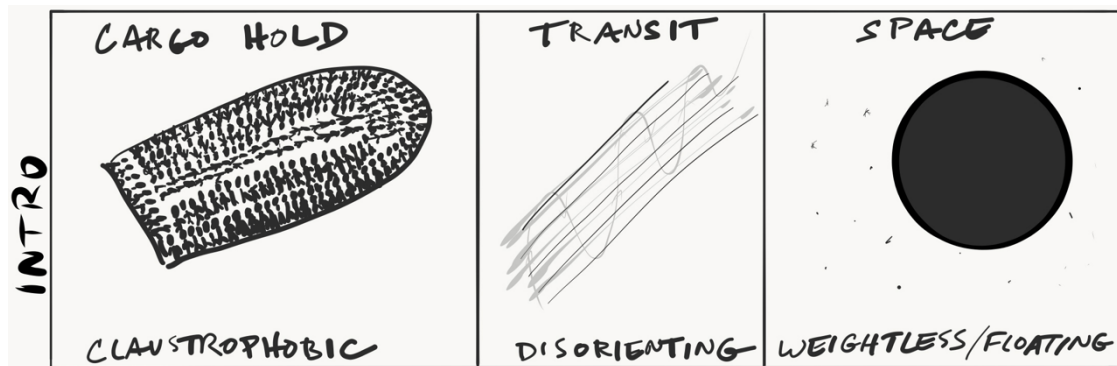


Figure 2: Storyboard for Swan.

The Mind of the Composer

Narrative soundscape compositions begin as casual conversations on a range of topics. After reflecting on the subject, a period of research is undertaken and storyboard sketches are made. For example, *Destination Freedom* started with a conversation about the underrepresentation of African American contributions to electroacoustic music and wondering what, if anything, could be characterized as an African American aesthetic in electroacoustic music. Prior to the composition of the prototype *Swan*, instructions for shipping human cargo, diagrams of slave ships, and slave narratives were studied. Rough sketches were shaped into a triptych storyboard illustrating the cargo hold, transition/journey, and arrival into space (see fig. 2). Although the beginning of the story is rooted in the Middle Passage, many elements are anachronistic. This trait of engaging multiple

periods of time, sometimes simultaneously or out of order, is a characteristic of many Afrofuturistic works.

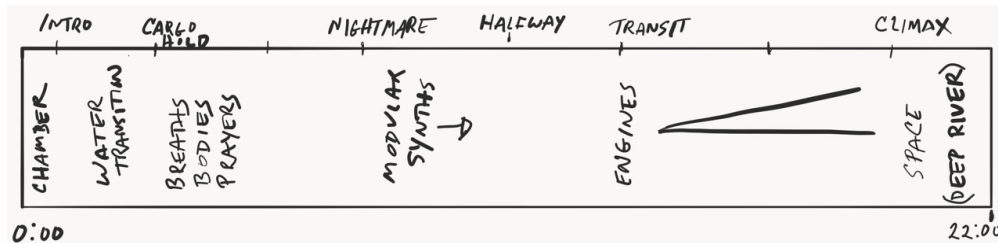


Figure 3: Destination Freedom structure map.

The twenty-two minute container for the composition was established first and then the scenes were visually mapped out (see fig. 3). Not until the elements were placed along the timeline did listening and evaluating become a part of the composing process. During the final revision stages, the choices were based on personal tastes.

Digital Performer is the primary digital audio workstation used to compose Destination Freedom for no other reason than it has been a part of my workflow since the early 1990s when it was just a MIDI-only known as Performer. In earlier stages of the creative process, I navigate between a series of DAWs each fulfilling a unique process. This also puts me into a desired “destructive editing mode” making it difficult for my compositions to be influenced by the unlimited undos that would be available if keeping the workflow limited to one system.

It allows for a familiar and intuitive process and, from a practical standpoint, it allows me to work with multi-channel audio in my home-based studio. ProTools LE is used for transferring studio recording sessions into my home system and auditioning, and making quick edits of the source material. From this point, sections of audio are either bounced down, or the sections marked and dragged into Digital Performer from the hard drive.

Ableton Live is used for quickly trying out ideas, especially rhythmic ideas or creating layers and loops. While it can work inside of Digital Performer, I often set up these sessions separately to save CPU processing power. Ableton is used for producing stereo materials that later get imported into Digital Performer. Reaper is used for multichannel or Ambisonic mixes when it is known in advance that Reaper is the DAW used by the venue for playback. It is desirable because it allows users more flexibility with routing audio and MIDI and is used by many fixed media venues for playback. While I use Max/MSP for installations, a dedicated DAW is preferred for preparing mixes for concert presentations.

Text

If the objective of narrative soundscape composition is to excite the theatre of the mind –to trigger images within the listener’s mind, then the words have this power. Literature evokes the imagination in the same way as radio drama –both require the participation of the reader/listener. *Swan* was a

departure from previous works that are dominated by text. The only human sounds are breaths; the heartbeats were produced by the Oberheim synth. The majority of the human-derived sounds in *Destination Freedom* are unintelligible: the prayers in the cargo hold, voices transformed into sirens, sermons in English diced up to sound like another language, etc. It is not until the arrival into the final scene that the vocalist fades in singing, “I want to cross over into campgrounds” from the Negro spiritual “Deep River.” The absence of recognizable language provides more space for the listener to engage her imagination.

Destination Freedom is programmatic music, but how much of the story can be revealed in advance without diminishing the listener’s ability to have a unique experience with the soundscape? Rather than extensive program notes, the title of the piece may be enough. The title of the work sets the tone based on the interpreter’s knowledge of or previous experience with a subject. For some, “destination freedom” it may signal that the listener is about to embark on a journey towards some abstract concept of freedom. For others, it may evoke African American struggles for freedom or the writings of abolitionists or civil rights activists. In 1948, Chicago’s WMAQ aired a 32-episode anthology radio drama series entitled *Destination Freedom* that was

devoted to the stories of African American heroes beginning with Crispus Attucks and the American Revolution.²⁷

Darkness and the Theatre of the Mind

Radio drama of the 1930s commanded audiences to listen with the lights out. Radio has frequently been regarded as a “blind” medium, an issue that continues to be disputed by radio scholars. Alan Beck sought to widen the debate about whether or not radio is “blind” or “invisible.” “Why...define radio’s status as a non-visual medium in terms of connoting impairment, disability and lack rather than positive attributes such as power and magic?”²⁸ “Blind” is often used to imply that because a narrative has no images, it is missing something or regarded as a deficit. In darkness, there are shadows which heighten the sense of the unknown. In the concert hall, darkness is the ideal venue for narrative soundscape composition which summons the Golden Age of radio. Darkness can be exploited by the composer in order to position the listeners inside of the narrative.

The following is an excerpt about the role of darkness written while *Swan* was being workshopped:

A darkened concert hall, rather than a theatre, is the preferred venue for the performance of *Swan* because of the associated behavioral expectations of the space. If the piece

²⁷ Available on several online catalogs. <https://www.otrcat.com/p/destination-freedom>

²⁸ Beck in 1999.

were experienced in a gallery, the audience could enter and exit the installation at will and determine how much time to spend with the work. Hearing only fragments of the composition would be acceptable for a gallery installation. Seasoned concertgoers of Western art music have been conditioned to be still, silent, and listen until the intermission or conclusion of the program. In a concert hall, the listeners are confined by fixed, side-by-side seating which contributes to the narrative by placing the audience in a dark, claustrophobic space like the vessel *Swan*. The development of *Swan* as an interactive audio game presents a different set of challenges. The listener becomes the player and operates a physical controller to navigate through the soundscapes of each scene. The player may choose not to participate and to remain a listener as the scenes unfold; however, if she decides to play, she will eventually realize that focused listening is necessary in order to negotiate successfully within the audio-only space. Unlike the group experience of the concert hall, the interactive version creates the illusion of an autonomous experience. The physical controller indicates that there are choices to be made, but there are no instructions to indicate the outcome of these decisions. At times, the player may have no agency, but suddenly possesses the ability to control the rate of acceleration and direction.²⁹

Spatialization

Spatialization undergoes many transitions in the history of radio drama. It was originally broadcast over AM frequencies in monaural formats. Distance from the microphone, filtering effects, and suggestions in the text gave the illusion of space. Releasing dramas on vinyl allowed for stories to be mixed in stereo and introduced to new audiences while audiophiles were getting accustomed to quadrophonic mixes. The internet age ushered in the do-it-yourself radio drama producer and the affordability and accessibility of

²⁹ A translation of my article which appeared in Swedish in *Nutida Musik*.

equipment resulted in multichannel experiments in 5.1 and ambisonics by individual and state-funded producers. These creators as well as developers of interactive radio dramas, or audio games, favor binaural mixes as a way to immerse the listener.

Curtis Roads suggests that “we eavesdrop” when listening to acousmatic music, but spatialization can be used to insert the listener into the scenes or lead the listener in and out of situations. Several audio formats were taken into consideration for the performance of *Destination Freedom*, each with their specific advantages and disadvantages. The mixing is an important part of conveying the narrative to the listener and listening to the various versions of *Destination Freedom* mixed in mono, stereo, and 5.1 surround reveal subtle differences in how the story is experienced. From a composer’s perspective, the workflow is dictated by access to recording and mixing resources whether they be available through an institution or home-based studio.

Binaural listening is about blocking out the world and creating an isolated experience. In advertisement for Philips headphones, the text reads “Listening pleasure for you alone,” featuring the image of a man enjoying his music on vinyl and ignoring his wife or girlfriend in the back of the shot who is glancing at a book. While earlier advertising focused on fidelity and hearing, these headphones ads encourage using their products to mitigate distractions from the outside world, including lovers, children, strangers, and the environment: noise canceling headphones.

There is a plethora of playback options –in academia, cinema, broadcast, games, VR- for compositing and delivering multichannel audio. When programming concerts with participants from around the world, what considerations need to be made to decide what format(s) is accepted? The pros and cons of both creative and program production concerns need to be carefully measured to make participation possible from the widest range of composers from around the world whose works are produced in various institutions and facilities utilizing different systems. There are general two options that are exercised: option a) have composers bring their own laptop, soundcards, and/or playback device; option b) have contributors conform to specified formats or to provided limited options.

Practical concerns for the composer should also influence the decisions of the venues and organizers of electroacoustic music festivals. If the composer has funding to attend the event, he/she may not have an opportunity to hear or mix the piece in the concert space in advance of the performance. In theory, if the piece has been mixed in an Ambisonics format, the chances for a more reliable playback will be had. There are, however, other factors such as the architecture of the performance space, the type and location of speakers, etc.

After working with various formats and attending concert series in 3 countries, Ambisonics seems the best option for narrative soundscape compositions that are intended to be performed in multiple venues. Popular

multichannel formats refer to speakers in fixed locations; the most common for electroacoustic concerts are stereo, 5.1, octophonic. Ambisonics are relative to a spatial mapping and allow the mix to be decoded to several formats. The main obstacle to this workflow is that, while audio encoded in Ambisonics can be transcoded to any format, it produces the best results when converting for a system with an even number of speakers. These rules are unestablished and inconsistent. On some occasions, the composer expected to bring his/her laptop to connect to the venue's soundcard or to bounce down to a specific format –audio file format or DAW session format.

A creative use of the spatialization would be to use monaural audio for diegetic storytelling and multichannel audio for mimetic showing of the story. (This technique would be analogous to the transition from black and white to color in the 1939 film rendition of *The Wizard of Oz*.) Both can be used to place the audience in the scene and the composer can move along a continuum of monaural to multichannel. In order for a composer to incorporate these elements earlier into the creation process as an integral component of the narrative, she would need extended access to the performance venue while the music is being composed. At current, this is an impossible and impractical aim; composers often do not gain access to the performance space until the day before or day of the event and the meaning of the spatialization is decided at the last minute.

Listener as Participant

In order for the theatre of the mind to be activated, the listener must meet the composer halfway. The sequence and diffusion of sounds have very little meaning unless the listener allows the composition to evoke memories and associations. Roads applies David Huron's stages of psychological reaction that occur while listening to music to narrative: an imagination response which involves imagining an outcome; a tension response characterized arousal and attention of the outcome; a prediction response that happens when an outcome is predicted; a reaction response where the defensive or protection of the protagonist or situation reflex kicks in; and an appraisal response wherein the audience reflects on what has happened (Roads 324).

The title *Destination Freedom* initiates the imaginative response before a sound is heard. The whispering cello, chimes, and piano chords trigger the listener to prepare for what will happen instigating tension from the unknown. When the music fades out and the water enters and morph into the cargo hold of the ship, the imaginative, tension, and prediction responses occur simultaneously. Huron's stages do not necessarily unfold in order in this piece because the scenes overlap and motives recur. Does every listener experience the reaction response during the disorienting journey? Is the final scene felt as a release of tension? The appraisal response occurs not at the end of the twenty-two minute sound piece, but minutes, days, or weeks later.

Transforming *Destination Freedom* from a concert piece into a sound installation allows gallery patrons to control they come into contact with the narrative (see fig. 4). The piece no longer has a beginning; it may be experienced in part or whole. Rather than having the audience restrained in seats, facing the same direction, with the lights dimmed, an installation rendering takes place in a lit room so that the patrons can move about safely. The audio plays on a loop, which works well since the story moves through past, present, future and history repeats itself. A bench housing a subwoofer is placed in the center of the room facing a blank wall. The low frequencies can be felt by those who choose to sit and the blank wall is the gallery equivalent of a darkened concert hall. One wall features the storyboards and information about the piece. The other wall plays a video that accompanies the soundscape composition: the first scene has no images, the journey into space is visually scored by images of motion through space, and the viewer floats slowly around the universe. (See Supplemental Files.)

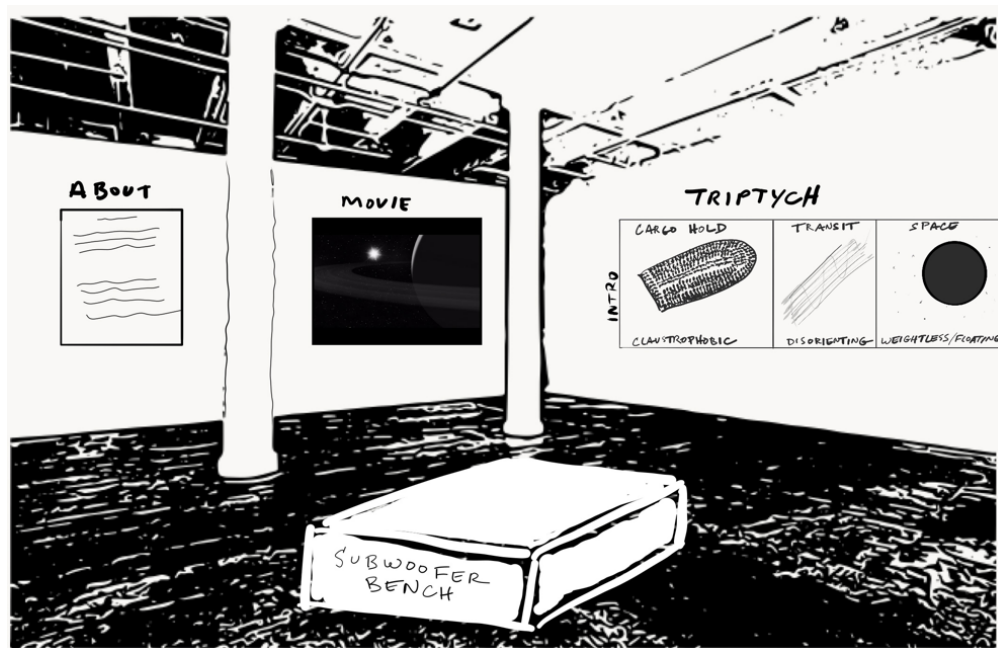


Figure 4: Conceptualization of *Destination Freedom* as installation.

Chapter 4: Narrative Soundscape Composition in the Classroom

The pedagogical implications of narrative soundscape composition reach beyond the individual needs of the composer-scholar seeking to bridge creative practice with research. Narrative soundscape composition has the potential to help students develop advanced listening skills, critical understanding of their daily soundscapes, and present a thesis through sound. In the following section, a sample 14-week course is outlined in order to illustrate how narrative soundscape composition can be implemented into a college-level curriculum through individual and collaborative research on identity and community.

The course is broken down into progressive elements: learning to listen through music journaling exercises; building a vocabulary to talk about sound in an analytical way; locating narrative soundscape composition in the context of a greater history of soundscape composition; applying techniques from *musique concrète* and *Elektronische Musik*; and composing autoethnographic sound pieces accompanied by written reflections.

Narrative Soundscape Composition Syllabus

Course Description

In this course, we will examine the history of electroacoustic music in tandem with practical composition assignments so that we may explore how class, race, gender, and sexuality are expressed through sound and music technologies. This course introduces soundscape composition, a subset of electroacoustic music, as an

artistic practice and research method. Students will use journaling to in order to document their individual relationships with music and to reflect on the role sound plays in the formation of community identity. Weekly assignments include the creation of autobiographical sound pieces that incorporate techniques and practices that emerged out of the musique concrète school of Paris and the Elektronische Musik of Cologne. Together we will learn to listen to our acoustic environment in a new way, explore self-identity through field recordings and synthesis, and develop our ideas into fixed media compositions to be shared at the end of the semester. The course readings are selected from various disciplines, and all students are welcomed regardless of previous musical experience.

A course in narrative soundscape composition introduces students to the techniques and aesthetics of electroacoustic music. This is accomplished by surveying the development of electroacoustic music from the late 19th century to the present, with an emphasis on musique concrète that emerged from France, Elektronische Musik from Germany, and soundscape composition from British Columbia. Students not only listen to music, but read theories introduced by Luigi Russolo, Pierre Schaeffer, Karlheinz Stockhausen, R. Murray Schafer, Barry Truax, and others. In addition to individual artists, the course focuses on the accomplishments of specific studios: Columbia-Princeton Electronic Music Center, Bell Labs, Elektronmusikstudion, etc. Special attention is taken to make sure that a more inclusive history of electroacoustic music is offered, one that highlights the compositions of underrepresented contributors: Alice Shields, Pril Smiley, Wendy Carlos, George Lewis, Pamela Z, Moor Mother, Onyx Ashanti, Jacqueline George, etc. A successful execution

of this course will provide at least two opportunities for the students to interact with active practitioners of electroacoustic music.

In addition to the listening and reading assignments, students will demonstrate their understanding of the various techniques discussed by completing composition exercises. While, depending on the resources of the institution, it may not be practical to assign musique concrète tasks involving analog oscillators and reel-to-reel tape, the philosophy of the course emphasizes a resourceful approach to sound-making. A smartphone, tablet, and/or laptop are sufficient for carrying out the course assignments. Students learn to make electroacoustic music with whatever they have. Free, open source, and low-cost tools are used to master the fundamentals of sound synthesis and editing: PureData, Reaper, etc.

The arc of the class moves from attention to the individual to the collective. Initial activities require self-reflection about personal relationships to sound. For example, the first assignments have students begin a written sound journal, monitoring their soundscape for three days, and then create a short field recording that represents an aspect of the student's personality or daily life. This assignment progresses throughout the course: the next step asks the student to edit several field recordings into a composite sonic autobiography. Throughout each stage, the student continues to build a database of empirical observations which are revisited at various times during the semester. Students are then introduced to digital synthesis and heuristically discover

timbres to which they have strong emotional responses (i.e., sounds they are attracted to or repulsed by). By the middle of the semester, students will have amassed a personal catalog of soundscapes and synthesized elements to use as source materials.

The latter half of the semester shifts the emphasis from personal discovery to collective collaboration. In-class presentations and peer reviews are used to assess autobiographical sound pieces created during the first few weeks as a way of fostering questions about identity and intersection of identities. This sharing process initiates the next stage: collaborative sound pieces which address social issues or historical events. Works from my repertoire (e.g., *Invisible People (A Radio Opera)* and *Destination Freedom*) are presented in order to exemplify how narrative soundscape composition can be used to pivot between research and creative practice. In small groups, students decide on which issues or events they will tackle with their projects. By this time, they will have built an arsenal of sounds that can be shared and they will be more confident in creating any additional sounds needed to complete their compositions. Students will explore creating moods, drawing attention to issues they value, and developing a thesis through sound. The course concludes with a performance of narrative soundscape compositions curated from the semester's assignments.

A narrative soundscape composition course is suited for interdisciplinary activity. Students develop an aural and sonic fluency by listening and

composing in tandem. The inclusive history presented during the semester helps students to link their music-making with a wider community of artists and researchers from different backgrounds engaging in electroacoustic sound. It dissolves any notions about who is a “composer” by making the tools, techniques, and history accessible to everyone while encouraging students to develop their own aesthetic.

Conclusion

Narrative soundscape composition emerged out of my personal investigation into how identity manifests through electroacoustic musicking and reconciling my relationship with my acoustic environment. *Swan* and *Destination Freedom* were primarily created in the isolation of the studio. The main points of social interaction occurred annually during the two-day recording sessions in Studio-A and during the 7 performances and discussions of my work at conferences and festivals. This lack of connection to others led to a desire to transform narrative soundscape composition into a platform for collaboration. Taking this method from my private practice to the college classroom puts it in the hands of a different generation who will be able to do great things with it that I have not yet imagined.

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