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The Isolated Listener

Introduction

Listening can be thought of as a response to the act of making sound. It is the listener's job to interpret the sounds produced by sound makers, but it is possible that listeners interpret those sounds in ways different from those the sound makers intend them to be interpreted. By investigating sound makers' perceptions of their listeners I sought to gain valuable insight on the communicatory relationships between sound makers and listeners. For my project I focused specifically on the perception of the listener as it occurs in the world of musical creation and consumption. I wanted to find out how musicians and radio broadcasters individually perceived their listening audiences, in terms of how and where they are listening, and further, find out if they catered to the isolated listener, in order to help musicians and radio broadcasters maximize the effectiveness of the music's expression, and potentially its connection to their listeners.

To examine this question I conducted and recorded interviews of five musicians and three radio broadcasters on the topic and used their responses to form a radio documentary. The final piece was broadcasted on WGMU, George Mason University's student-run radio station. Using the research I accumulated about the audiences' perception and reception of musical expression as a guide, I attempted to find out how the perceptions held by musicians and radio broadcasters were comparable, and how much of these perceptions, if any at all, were considered in their

practices. Durand R. Begault argues that consideration of the element of space is lacking in musical analysis language for the musical composer and the listener, and without it a composer or listener cannot talk or think about where a sound is coming from (46). Musicians, recording engineers, and broadcasters might consider the perception of space and how it could be used to connect to their listeners as they produce, capture, and reproduce musical media. To the best of my knowledge, there is no other work that asks musicians and radio broadcasters to explore their perceptions of their audience. This documentary intends to begin filling this gap in the research.

The intended audiences for this project are musicians and radio broadcasters. Both groups participate in the process of creating and disseminating musical media. Their level of involvement at each stage of production might differ on an individual basis, but it can be said generally that musicians compose, perform, and produce music, and broadcasters deliver recorded musical media to the public. This documentary allows musicians and broadcasters to consider the question of perception of listeners from the viewpoint of their peers and as a listener simultaneously. By listening to the documentary, they will hear a discussion of how sound in musical media might be manipulated with technology and how those sounds might be interpreted uniquely by individual listeners based on their physical location and attention, among other attributes and life experiences.

Interdisciplinary Rationale

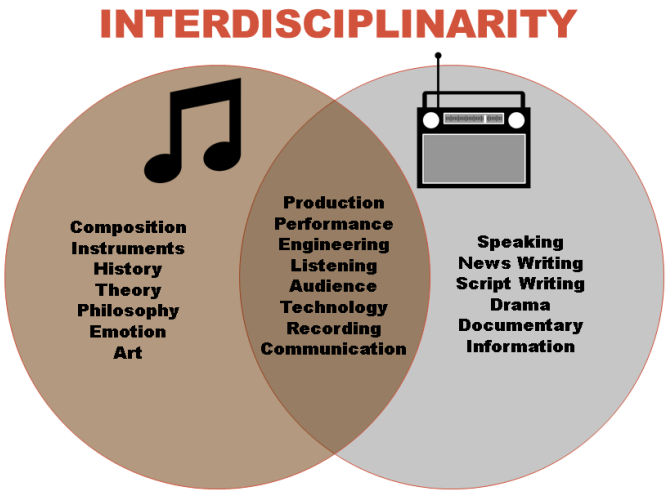
B.I.S. Program Concentration

My interdisciplinary concentration is Acoustic Media Studies, which draws coursework from the disciplines of Music, Theater, and Communication Studies. A major focus in Communication studies that is especially relevant to radio broadcasting is producing work for, examining, and appealing to a specific audience. Within the realm of compositional philosophy,

the Music Studies discipline questions the meaning of music, who gets to define it, and who it is made for. As found in Music Studies, sound designers and engineers in the Theater discipline study the art and craft of recording, mixing, and presenting sound.

Project Interdisciplinarity

The approach to executing my project made the most use of theories and practices from the Music and Communication Studies disciplines. On the technological side of Music Studies, theories and practices of music production are studied, mainly for composition and recording by using different software and hardware equipment and instruments. The discipline also examines the technology's historical and social contexts in music studies. Music is the thread that ties my project together. The project is about people who create and disseminate musical media, as well as those who listen to it. Of the research gathered for this project, the largest cluster of sources from any one discipline belongs to Music Studies.



As mentioned at the beginning of this section, philosophically the Music Studies discipline questions the meaning of music, who gets to define it, and who it is made for. One of the major questions the documentary is asking is "who do musicians make music for?" Through the research and the documentary's interviewees, the project also explores how a composer might use technology to communicate specific messages, feelings, or sense of space to their listeners, specifically to those listening in isolation. Technological production practices from Music Studies (recording, editing, mixing, mastering) are used to put the documentary together into a finished product to be

broadcasted. However, a musical production would likely not have been the best way to present the concepts I am researching, which is where my second main discipline comes in.

In the Communication Studies discipline theories and operational practices of different formats of commercial and noncommercial radio are studied. Those in this discipline might study the speech and performance skills necessary to be an on-air show host, as well as the production and engineering techniques needed to produce news, sports, and music shows, among other formats. In recent years, one of the discipline's major areas of research relevant to radio broadcasting is the technological shift of its delivery system – from traditional AM and FM terrestrial broadcasting to the inclusion online broadcasting, as well as the listeners' increased mobility. Radio broadcasters are very interested in who their audience is and how they are consuming their products. My project uses some of this research along with an article about the methods of producing a radio documentary.

The technical practices of the discipline are relied upon heavily in my project because the final product and procedure was to have a broadcast-ready documentary piece and broadcast it. As radio broadcasting and web streaming are popular forms of music distribution that generally situate listeners in isolation (i.e. headphones or in a car) they were appropriate for this project's dissemination since the participatory role of the listener was a key element. Radio broadcasters have a stake in what music is played and consider who it is played for, so the discipline's theories of musical programming and audience studies will shed light on their intentions with musical media. What I have not found in this discipline's body of research are studies examining the effect a broadcaster can have on the media they broadcast, especially on the communicatory effects of music.

Another shortcoming with the Communication Studies discipline and radio broadcasting production practices, as far as my project's necessities went, is that it does not study music composition and production. They do, however, study using music in productions, but I will not be able to find out what elements, messages, or emotions might get lost in translation from the composer to the listener from this discipline alone. The Music Studies discipline has a same-but-different problem; it only accounts for one piece of the puzzle. Their community's music potentially passes through the hands and technology of broadcasters before it reaches the audience's ears. Both disciplines have unique theories or technological methods they use to communicate specific messages, feelings, or a sense of space to their listeners, but I did not know if they used that knowledge in conjunction with their perceptions of how and where their listeners are listening, and I thought the best way to find out was to talk to them.

Extended Literature Review

The trend of miniaturization and mobility in musical media technology has allowed listeners of music the possibility of listening whenever and wherever they desire to do so. Portable cassette and CD players allowed music listeners to take with them as many albums as they could or wanted to physically carry. In the last decade the radio industry has been concerned about the loss of their audience due to the invention of the MP3 player (Albarran et al. 92) (Furguson, Greer, Reardon 102) which gave listeners the ability to travel with their entire collection of albums, limited only by their device's memory capacity. Now, with cellular devices and high-speed data connections listeners can stream music from library sized catalogs using services like Spotify and Pandora. The discussion around the listening patterns of music listeners illustrates that because of the technological miniaturization of musical media playback, music listening is more mobile than ever, and by using headphones the listener is able to more-or-less

shut out the outside world and tune-in to whatever sonic environment they desire. This trend also physically places a group of music listeners in public spaces

The Isolated and Mobile Listener

When the listener using mobile music technology is wearing headphones, they can listen to music at low or high volumes in public spaces without others around them hearing it. By using headphones the listener is plugging-in to the music. They will hear a musicians' composition, or if it is a broadcast, a broadcaster's curated selection. In his article "From Stethoscopes to Headphones: An Acoustic Spatialization of Subjectivity" Charles Stankievech suggests that by wearing headphones a listener is clearing space in their head to physically bring a sound image from someone or something else to have it remapped into their own body (56). Because "headphones provide the ability to play any type of sound, from natural to technical to musical" they can create an imaginary sense of space that replaces the perception of space in reality for the listener (56).

The devices that enable mobile music listening have the potential to alter listeners' perception of reality through their sense of hearing while moving through private and public spaces. In the paper "No Dead Air! The iPod and the Culture of Mobile Listening" Michael Bull describes these listeners' use of mobile music technology as a way of controlling space and time where they could not before (344). What used to be uneventful times and places of necessity, like during a commute to and from work, can now have "construct[ed] meaningful and pleasurable narratives" because commuters can choose what they hear – they can curate their own soundtracks (346-347). Listeners can select songs they want to hear that reflect their mood, or reflect the mood they want to be in. Bull adds that users of iPods and headphones isolate themselves from others, giving them a sense of privacy in public, so in summary "iPods are used

both as a mundane accompaniment to the everyday and as a way of aestheticising and controlling that very experience" (350).

Bull's work expresses listeners' desires to use mobile music devices to seclude themselves from others in public spaces as an empowering and overall positive motivation. Michael Walsh offers an opposing point of view in his article "Portable Music Device use on Trains: A 'Splendid Isolation'?" In his research he interviews non-users of mobile music devices on commuter trains and finds that their perception of users is that by using mobile music devices and headphones listeners are sending a negative and "powerful message of intentional social isolation" (3). Non-users get the feeling that users do not want to be bothered by or even be aware of them. In a supporting study "iPod Use and the Perception of Social Introversion" Benjamin R. Garner finds that people are less likely to themselves engage with an iPod user, because using an iPod is a signal that the user wants to be left alone (22). In these studies non-users perceive that iPod users do not want to have their personal soundtracks interrupted. Walsh further disputes Bull's idea that iPod users gain complete freedom and privacy by using their devices because the users he interviewed said they did not feel completely isolated from others and "users still sense the public nature of their listening practices, and, moreover, perform types of bodily restraint that are not found with semi-private spaces like the automobile" (5).

Sending the Message

There are techniques that musicians or radio broadcasters can use in their work process that cater to what they might perceive will enhance a listener's experience, or aurally alter their perception of their listening space. In "The Death and Life of Digital Audio" author and scholar Jonathan Sterne writes about sound engineers' use of dynamic range compression on music recordings. He explains that the popular music recording industry's standard practice is to

minimize dynamic range because a listener will perceive it as louder, and therefore better: "The theory is that if two songs on the radio are otherwise of the same quality, the 'louder' song will be more likely to catch a listener's attention" (344). When listening to music in a quiet, private living room was the norm, dynamic range compression was mostly used to assist listeners in hearing music better in less than ideal listening situations, like in restaurants, loud bars, and through telephones while 'on-hold', or to overcome technical restraints like radio broadcasting bandwidth limitations. Sterne claims that now, with its digital mobility, most music listening is done in less than ideal situations – through headphones on public transit and in cars (345).

Wherever a listener is listening to music, it is possible that a recording engineer can attempt to create for the listener an altered perception of their acoustical environment. Reverb is an acoustic effect that occurs naturally in the world and can be reproduced electronically or digitally in music recordings. It is essentially the sound you hear as a source's initial sounding propagates into a space and reflects off of its surfaces. You will normally hear it in combination with the source's original sound, giving the sound an extended, fading tail. You can hear reverb most easily in a large concert hall, a cave, or when you sing in the shower. David Griesinger's article "Concert Hall Acoustics and Audience Perception" discusses the how the physical properties of concert halls can have an effect on the listener's experience, especially as their acoustic properties relate to the production of reverberation in the space. He also explains how a space's reverb production can enhance the performances of musicians, and ultimately the listening experience: "the blending of arpeggios into chords . . . , the magical way the sound of a good hall can dance around the listener in the space between notes . . . , and the creation/perception of a unified ensemble from a group of individual musicians" (126).

There is yet more musicians can do in their recordings to potentially alter the listener's sense of space. Doug Eisengrein's article "Mixing In Space" argues that in real-life, hearing surround sound - horizontal and vertical - is normal and underused mixing techniques can produce similar results in stereo listening (two speakers, or headphones).. One technique the author presents is that "[b]y panning different instruments in groups [within the stereo or left-to-right spectrum], you can simulate a live stage, a small room or even a hall" (Eisengreim). Spatially-aware music recording and mixing techniques can be used to convey a specific sense of space to the listener. A piece of music might not be recorded in in a concert hall, but a musician might be able to recreate for the listener a similar listening experience with their recording even if they are listening in their car.

Shuhei Hosokawa explains in his 1984 piece "The Walkman Effect" that for music listeners "the portable radio and car stereo . . . made possible on the road an experience which had previously only been feasible indoors" (169). The car stereo is another device that allows people to listen to music as they move about in public and simultaneously maintain a sense of privacy. Artist and composer Peter Sinclair is developing a device that creates music specifically for listening to in cars called *Road Music,* which he describes in his article "Road Music". The device attaches to an individual's automobile and composes and produces, in almost real-time, music through the stereo by gathering data from the driver's environment by use of cameras and accelerometers on the device. According to Sinclair, "It is rarely possible to hear the sounds of the landscape through which we are traveling and considerable efforts are made to reduce sounds produced by the machine itself, generally considered as unpleasant" (311). What Sinclair hopes to achieve with the music created by his device is to reduce the sense of isolation and perception of artificiality the listener feels while driving a car.

In his article "Designing A Movie For Sound" film sound designer Randy Thom discusses a film industry sonic perception problem not unlike that of the music industry's "louder equals better" explained in Jonathan Sterne's article (344). Thom explains "Sound, musical and otherwise, has value when it is part of a continuum, when it changes over time, has dynamics, and resonates with other sound and with other sensory experiences" (Thom). While extreme explosions and beautiful scores might be great accomplishments in themselves, they can have greater impact on the listener if they are working together with visuals. Thom says that in a film the audience is supposed to have their experience through one or more of a film's characters, so they should be able to gather sensory information from the characters' consciousness and from that perspective are able to, with sight and sound, perceive emotions, identify a local or a sense of space, or make connections (Thom).

Michael Schultz and Scott Lipscomb believe that visual stimulation not only has the ability to give music a stronger impact with its accompaniment, it can also manipulate the listener/viewer's perception of what they are actually hearing. Their article "Hearing Gestures, Seeing Music: Vision Influences Perceived Tone Duration" article had two goals: to find out if longer striking gestures made by percussionists in turn created acoustically longer notes, and if a listener would perceive them to be longer whether they saw the percussionist strike the instrument or not. Schultz and Lipscomb's results found that longer striking gestures did not necessarily produce acoustically longer notes, but when the listener saw the percussionist make a longer strike, the listener would perceive the note to be longer. The author's say listening situations "that ignore visual information (radio broadcasts, recorded performances, blind auditions, etc) are robbing both the performer and audience of a significant dimension of musical

communication . . . [because it] relies on correlation not between performer intent and acoustic result, but between performer intent and audience perception" (897).

Receiving the Message

It seems that there is hope for musicians who are trying to convey emotional messages to their listeners, without necessarily considering the visual experience. Goyocoolea, Marcos, Raquel Levy, and Carlos Ramirez's study "Central Auditory Processing. Are the Emotional Perceptions of Those Listening to Classical Music Inherent in the Composition or Acquired by the Listeners?" was conducted in order to find out if emotions perceived by listeners when listening to classical music come from the compositions themselves, or if they were learned socially. The researchers played portions of five pieces of instrumental classical music for kindergarten students and found that "[r]egardless of their sociocultural background, the children . . . consistently identified similar emotions (e.g. fear, happiness, sadness), feelings (e.g. love), and mental images (e.g. giants or dangerous animals walking) when listening to specific compositions" (390). Instead of humans learning to interpret emotions from music, it appears that musicians have learned how to convey human emotion in their work.

Music can communicate emotions, but according to Alf Gabrielsson and Patrik N. Juslin it "is one of the least understood aspects of music, at least as far as scientific explanation goes" (68). In their study "Emotional Expression in Music Performance: Between the Performer's Intention and the Listener's Experience" music performers played and recorded melodies with specific intention to convey different emotions to the listeners in the experiment. Gabrielsson and Juslin found in their research that listeners were generally able to interpret the intended emotion of the performer. Emotions like "happy", "sad", or "angry" (as found in Goycoolea, et al.) were

easier for performers to communicate and listeners to interpret, while "solemnity" proved to be more challenging (87).

With more complex emotions the issue of mistaken intention between a listener and a sound maker is still troublesome. Managing this can be especially challenging for electroacoustic musicians, whose compositions contain what musician Steven Naylor says are "sounds that are not conventionally thought of as 'musical'" (110). Naylor suggests that use of such sounds might turn out to be unintentionally problematic for different listeners. For example, depending on a listener's experience with a region or culture, a certain sound could present a range of contexts. They can range from specific images of a place and its people, to a general image of a greater region or culture, or the listener could "simply experience a sense of 'exotic'" (112). With this latter experience a possibility, Naylor warns "the composer may face accusations of superficial exoticism, cultural offence, or the violation of personal or legal rights" (110). In this writing "The Material Heterogeneity of Recorded Sound" Rick Altman explains his theory that sounds are narratives of events that can be interpreted differently by any individual, depending on their location when they hear the sound event (19-20). Recordings of sound further complicate the narratives because then artifacts of the recording media and playback system are added to the sound-narrative's story on top of the listening location (23-27).

A Musician's Perspective on Creation, Listening, and Isolation

In his article on musical performer/composer (and eventually recording engineer) Glenn Gould's philosophy on musical recording and listening "Glenn Gould and the New Listener" Barry Mauer describes that historically, when musical media was introduced the quality was not good enough for the listener to expect it to sound like a live performance, but as musical recording and reproduction technology improved "audiences came to expect the perfected sound

of the recording during the concert experience and evaluated the live event against the recording" (107). Listeners familiarized with high-quality and seemingly perfect musical recordings increasingly and unrealistically anticipated the same sonic characteristics in live performances. Gould is known for his eventual departure from live performances in favor of creating music in the studio because he thought, as Mauer puts it, in an ideal musical listening situation "the performer disappears and all that remains is the listener and the music" (105). The visual aspects in live performance settings compete for the listener's attention, so without the visual distractions the music can speak for itself.

Musician and researcher Tim Hecker describes Gould's affinity for creating music in the studio "as [a] monastic retreat, a site of total control and a technology of self-erasure" (78). Similar to the listeners described earlier in this paper, Gould desired control over the sonic environment, but more so over how his musical message would be received by the listener. He felt that he was able to achieve it on some level by using technology available in the recording studio instead of being subjected to what Hecker calls "the accident-laden sphere of performance" (78). In regards to the listener having control over their sonic environment, Gould envisioned that studio "techniques such as do-it-yourself home tape splicing would encourage the listener to conduct their own montages through 'splice prerogatives,' and the possibility of manipulating pitch and tonal configurations through high-fidelity sound systems" could bring "life" to a recording, as opposed to the idea that musical media is finalized once it reaches the listener (Hecker 79).

One on One

A common goal of radio broadcasters is to create a strong and personal connection with their listeners. Bob Edwards is a broadcaster "responsible for bringing listeners up to date with

overnight news and broadcasting about 800 interviews annually that he conducts on every aspect of human endeavor" (Adelman). Ken Adelman interviewed Edwards who explained that the magic of radio is that it "produces the illusion that the person is talking to you alone (Adelman)", and that unlike television, radio has no pictures, so it allows the listener to have a more personal experience because they will create their own pictures (Adelman). Anne Karpf's paper "The Sound of Home? Some Thoughts on How the Radio Voice Anchors, Contains and Sometimes Pierces" argues that by virtue of being broadcasted on the radio, a presenter's voice can have the power to convey or manipulate the emotions and abstract ideas of a listener. A voice heard on the radio can get into "the regular listener's internal world, with the capacity both to 'hold' the listener together, and to transform overwhelming fears into more manageable feelings" (59). Karpf says the radio voice "originates outside the listener, but then arrives in our houses, our cars, our workplaces – the spaces that we think of as 'home'" (68). The broadcaster's voice connects and communicates with the listener, and has the ability to travel with them wherever they go.

One of the most powerful tools broadcasters have in their arsenal is their announcing voices, and Samantha Warhurst, Patricia McCabe, and Catherine Madill sought to find out what vocal qualities are cherished by the broadcasting industry in their study "What Makes a Good Voice for Radio: Perceptions of Radio Employers and Educators" This paper describes the author's results of conducting interviews of radio broadcasting professionals on what characteristics they thought would be in alignment with a person who has a good radio voice. "[R]adio employers and educators described a range of communicative features that make radio performers easy to listen to including warmth, depth of pitch, clarity of speech, presence, animation, liveliness, and no faults" (223). Additionally the interviewees describe a necessity for

adaptability – to fit the tone of the broadcast or station, and an above average overall command of their voices (223-224).

Methodology/Creative Rationale

The idea of creating a radio documentary as a capstone project had been in the back of my mind since my first semester at George Mason University. My studies have presented opportunities to experience and think critically about being on both sides of the glass – in the studio recording, broadcasting, or podcasting, and listening to others' recordings, broadcasts, or podcasts (mostly during my commute to campus!) This project has many structural and technical similarities with a previous class' project I completed. In the Fall 2013 semester. For the course Transmedia Production for Social Change with Professor Giovanna Chesler (my BIS mentor), I created a fictional two-episode audio series called *Judge Roadburn* which was thematically inspired by daytime television courtroom shows and talked about bicycle rider and car driver safety on the road. For these episodes I recorded original music and voiceover. Each episode's broadcast premiere was on WGMU, and the final product is hosted on a website.

For this project I thought I could spring-board from my experiences producing *Judge Roadburn* to, again, create a project that would showcase what I had been working toward with my education by talking about acoustic media through acoustic media. Working with Professor Chesler, among many potential research questions and topics, I decided to explore the question of how and where musicians and radio broadcasters think their audiences listen to their work, based on the subject's potential of adding something new to the conversation about mobile music listening technology and its users. Incorporating the perceptions of musicians and radio broadcasters was in effort to build a scope and range for the project where information, resources, and time were available and manageable.

The main differences from the *Judge Roadburn* project and this project were: first, I did not include the transmedia element, which would have involved using several media production and distribution tools in effort to present the story. Including transmedia in this project would have been too large of an undertaking for the time and resources I had. This time around I created a single production and employed a single dissemination method: a radio documentary to be broadcasted on the radio. Second, this project is not fictional, but it still attempts to tell a story. Radio documentarian Stephen Smith explains that similar to its television and film counterparts, "at the heart of [radio documentaries] are moments recorded on tape in which the story unfolds in front of the listener" (6). In my project I used the voices of my interviewees, narration, and music to tell a story that attempted to answer the questions proposed in this paper. By virtue of using recordings of participants' voices the project has an essence of oral history. In the article "The Affective Power of Sound: Oral History on Radio" Siobhan McHugh argues that oral history is most effectively disseminated through radio broadcasting because the medium is best able to represent the sonic characteristics of the information being documented. The two main characteristics McHugh ties to both radio broadcasting and oral history are '"aurality' [meaning] relating to the ear or the sense of hearing" and 'orality' [referring] to the fact and quality of oral/ verbal communication" (188). Broadcasting the documentary piece I created on the radio was an ideal scenario, according to McHugh, because the voices within the documentary and their intended meanings can be heard, and therefore represented as accurately as possible, apart from hearing them in person.

Trying to answer the question I proposed in this project (how do musicians and radio broadcasters perceive their listening audiences, in terms of how and where they are listening?) proved difficult because with perception there is no absolute right or wrong answer. Peoples'

varying experiences can shape how they form their perceptions of the same things differently. In his writing "What Gives Documentary Films a Voice of Their Own?" film critic and theoretician Bill Nichols suggests that the documentary form is a way to engage in discussions around "issues and topics that do not lend themselves to [being answered by] scientific proof" (49). Nichols explains how the voice of a documentary is developed not just from the voices of people in the piece, but rather how the combination of their voices, other sounds, and images are assembled together. Nichols' concept of how the voice of a documentary is formed can be thought of as similar to the way people collect and organize information from their experiences to form a perception. As the similarities and differences from the various perspectives of the interviewees were examined in the documentary, this method allowed for the opportunity to present challenging or abstract musical communicatory concepts in a very humanistic way.

Production Sequence and Timeline

Producing this radio documentary happened through four phases: pre-production, production, post-production, and broadcasting. Each phase required making several decisions or actions in order to move on to the next phase in the sequence, and to eventually complete the project.

<u>Pre-production (Summer 2015 – mid-September 2015)</u>

- Establish technical resources: recording spaces, equipment, and software
- Develop documentary format (quantity, length, style, voice) and themes/topics
- Produce narratives and scripts based on themes/topics
- Develop interview questions
- Select interviewees
- Continue sourcing outside research
- Design for music/sound effects

<u>Production (mid-September – October 2015)</u>

- Schedule dates/times for recording sessions with interviewees
- Schedule date/time for radio broadcast premiere date with WGMU
- Conduct and record interviews and narratives
- Collect/produce music/sound effects

Post-production (November 2015)

- Transcription of interviews
- Editing, mixing, and processing all audio
- Integrating interviews, narrative, music/sound effects to first draft for review
- Make changes if necessary for final draft
- Mastering of audio into deliverable format for radio broadcasting

Broadcasting (early December 2015)

- Plan for on-air breaks with commercials and station identifications during broadcast
- Broadcast final production on WGMU

Recording

This documentary was made up of original sound recordings of voice narration and interviews. It also included music created by myself using acoustic and virtual instruments, and analog and digital synthesis tools. With permission of some of the interviewees, their own recorded music was also used in the production. Everything was recorded, edited, mixed, and delivered digitally. There were two different interview recording scenarios I encountered. I conducted as many of the interviews possible in-person. To record them I used a Tascam DR-40 digital hand-held recorder using its built-in stereo microphones. For one of these in-person interviews I was able to additionally use a shotgun microphone I checked out from the university's STAR Lab. When it was not possible to conduct an interview in person I contacted the interviewee using Skype. At my home studio I was able to record the voice of the interviewee by sending the Skype audio out of my Surface tablet's headphone jack into a channel on my

Tascam US-1641 recording interface, while simultaneously and independently recording my own voice with a microphone also in the US-1641. The computer software I used to record, edit, mix, and master the documentary was Reaper Digital Audio Workstation. All recordings were recorded as WAV files at a sampling rate of 48 kHz at 24-bits per sample. The final cut of the piece was additionally rendered as a 320 Kbps MP3 file to conform to the broadcasting software (OtsAV) requirements at the WGMU station' studio.

Interviews

Name	Title/Job	Method/Location	Technology
John Barnes	Radio Broadcaster	In-Person/Residence (Virginia)	DR-40 Internal Microphones
Jefferson Beavers	Radio Broadcaster, Journalist	Skype/Office (California)	Surface to US-1641
Mark Cooley	Musician, Visual Artist/Professor	In-Person/Office (Virginia)	DR-40 Internal Microphones
Bird Hansen	Musician	In-Person/Residence (Virginia)	DR-40 Internal Microphones
Pierce May	Musician	Skype/Residence (California)	Surface to US-1641
Stephanie Mendoza	Radio Broadcaster	Skype/Residence (Massachusetts)	Surface to US-1641
Caroline Weinroth	Musician, Sound Engineer	In-Person/Recreation Hall (Virginia)	DR-40 and Shotgun Microphone
Jennifer Weisberg	Musician	Skype/Residence (California)	Surface to US-1641

Broadcasting

With the approval of station management, the final radio documentary was broadcasted on Wednesday, December 9th from 12-1pm on WGMU, George Mason University's student operated radio station, which streams live online at wgmuradio.com. I was in the station's On-Air studio located in the bottom floor of the Johnson Center to engineer the broadcast. Prior to the starting time the piece's corresponding MP3 files were uploaded to the station's computer. Using OtsAV DJ software on the computer, the files were added to the playlist. The final running

time of the documentary was approximately 50 minutes, which allowed time to play the required station commercials, public service announcements, and station identifications throughout the broadcast, all within an hour time-slot. A bonus to the broadcast event was when one of the documentary's interviewee's, Caroline Weinroth, dropped by the studio and said a few words about her experience participating in the project. At the conclusion of the broadcast the documentary MP3 files were removed from the station's computer.

Analysis of/Reflection on Creative Process

Creating this documentary proved to be very challenging for me because there were many "firsts" in my audio production experience. One of these "firsts" was doing intense academic research on a subject and trying to make it fit into an audio project. It was also my first attempt at making a feature length documentary. I have conducted interviews for radio before, but never with such particular goals and specific questions I needed to be answered in order for the whole thing to work.

One piece of the production process I had not planned for initially was the transcription of my interviews. While discussing production with my mentor, she described the process and advised me to do it. My interviews averaged around 40-60 minutes each, so it took a very long time for me to get through all eight of the interviewees' conversations. What this process did was help me remember what each person said and figure out how each interviewee's comments related to the others within the topics of my research. It also gave me a chance to organize everything on paper first and build a sort-of script where I wrote narrative segues that needed to be recorded.

Aside from having to transcribe them, I feel the length of the interviews indicated good interviews. It meant that I was not getting simple yes and no answers, and instead was getting in-

depth responses and anecdotal stories. I always had my list of questions by my side during the interviews but I was not strict about going in order. I also allowed the conversation topics to go in different directions, which was sometimes not useful for my project, but it was more often beneficial because it brought new ideas to my work that I had not thought to include. For example: during the last ten minutes of the last interview I conducted (with Jefferson Beavers) I realized that there was an interesting common conceptual thread within many of the interviews - the idea of online as a space where sound makers imagine their listeners listening, rather than just a delivery method. In the first section of my literature review *The Isolated and Mobile Listener* the research discusses how music listeners can control their sonic environments by taking their music with them anywhere. My interviewees acknowledged this phenomenon, but related to it more like an environment like a venue where a live performance would occur. Listeners have to go there, and often somehow have to pay to hear the music.

Another unexpected bridge that came about from the interviews was the connection of musical emotion or energy and the location it occurs. From the musicians I interviewed, there are generally differences in their intended musical expressions in live performances with audiences and performances for recording, and their expressive techniques differed accordingly. One example was from interviewee, musician, and sound engineer Caroline Weinroth, who said that recordings, as opposed to live performances, are intended for one listener and are more intimate. She metaphorically calls her recorded music "love letter music" because the songs are supposed to sound forlorn and they get sent to an individual listener far away who opens the letter and hears her voice reading the letter. In her live performances Weinroth wants the energy and message of her music to have more of an upbeat feeling, like saying "I'm over that sad thing that happened, thanks to everybody here at the concert." To achieve this emotional change using the

same songs she plays a little bit faster and sings with a slightly sassier attitude than she would for a recording.

Additionally, musicians and broadcasters alike related to the risk of live performances and how they create a level of vulnerability in the performer that engages the listener, along with how that often does not exist in recordings. In the modern practice of recording, if what is perceived as a mistake is made, it can easily be erased and redone. Knowing this, some interviewees shared the sentiment that recordings can be less honest presentations of music, and listeners can sense it. Some interviewees expressed that they desire imperfections, or relate to artists with recordings that are less polished because flaws make the artists seem human, rather than unrealistically perfect musical gods.

The original question I intended to answer with this documentary was to some degree answered by my interviewees, but given the small number of people I interviewed I cannot say there was an empirical answer. How do musicians, engineers, and broadcasters perceive of their listeners in terms of how and where they are listening? The most common answer was online in some fashion. Some said they do not think about their listeners while they produce their work. However, most of the musicians I interviewed considered themselves as listeners of their own music, separate from other potential listeners. They would put themselves in different listening environments with different equipment to compare the sonic qualities of their mixes when it is played back. Both Weinroth and Mark Cooley said they listen to mixes through different sets of headphones or in their cars, and make adjustments accordingly. Cooley said he tries to listen while driving with road noise to see what desired subtleties get lost. Though not discussed with the interviewees, this made me think that there are several other scenarios that could be useful to reference mixes before they are finished; online listening presents many alone. A website that

hosts or streams songs might use different processing methods to play back the music to the listener that could alter the product. Then, the listener could potentially play the music back through several speaker systems including headphones, laptop speakers, car stereos, or cell phone speakers. It seems impossible to make a mix sound perfect in every listening situation, but I think the goal is to make it sound good in as many as possible.

What I was hoping for that did not really happen was more of a psychoacoustic discussion of how musical emotions and messages in these different environments could be altered. I think it could have happened with the same interviewees had I asked the right questions. Everybody seemed to relate to emotional expression and communication through music, but we did not tie it back to the potential listener's method or location of listening. Aside from crafting more specific questions, this experience has shown me that there is an art to choosing the people to answer the questions. I could have benefited from including people at different experience levels of production in my project. Some of my interviewees were both musicians and sound engineers, but musicians first. I did not get to interview anyone that is an engineer first, which I think might have contributed a more technical perspective to the discussion.

Conclusion

From the conversations I had with my interviewees, I found that the musicians have strong connections to physical spaces and their music, many of which are very personal spaces, like in their private studios or practice spaces, as well as in their vehicles, or even their bedrooms. Unlike the radio broadcasters, some of the musicians were reluctant to say if they considered potential listeners while they produced their work. They did, however, imagine listeners post-production listening to their music in similar locations with similar technological

setups to those of their own. One of the big ones was described as being at home on a computer streaming through the internet. In this scenario, online communications technology has presented to the listener a place to listen to music that is generally more of a stationary and private space, rather than one where they are on-the-go out in public. However, in this same scenario, any musician or radio broadcaster hoping to grab and hold the attention of potential listeners has to compete with what the listeners have at their fingertips - information about virtually anything they might want to occupy their minds and time with. But in some ways, musicians and radio broadcasters might consider these places desirable locations for their potential audiences to listen to their work. The online world has visual and other interactivity potential, like a place to give and receive ratings and feedback. It can also be a convenient place for commerce.

Different music listening technology and the physical locations that accompany them are used for different reasons by different people – sometimes by virtue of convenience, sometimes to create a sense of privacy, and sometimes, just for background noise. Musicians and radio broadcasters want to be heard, so second place isn't so bad, right?

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