

**SOUNDING COMPOSITION, COMPOSING SOUND:  
MULTIMODAL LISTENING, BODILY PEDAGOGIES, AND  
EVERYDAY EXPERIENCE**

by

**Steph Ceraso**

Bachelor of Arts, Washington & Jefferson College, 2004

Master of Arts, University of Vermont, 2006

Submitted to the Graduate Faculty of the  
Kenneth P. Dietrich School of Arts and Sciences in partial fulfillment  
of the requirements for the degree of  
Doctor of Philosophy

University of Pittsburgh

2013

UNIVERSITY OF PITTSBURGH

Kenneth P. Dietrich School of Arts and Sciences

This dissertation was presented

by

Steph Ceraso

It was defended on

June 21, 2013

and approved by

Stephen Carr, PhD, Professor, Department of English

Annette Vee, PhD, Assistant Professor, Department of English

Jessica Enoch, PhD, Associate Professor, Department of English, University of Maryland

Dissertation Chair: Don Bialostosky, PhD, Chair and Professor, Department of English

Copyright © by Steph Ceraso

2013

**SOUNDING COMPOSITION, COMPOSING SOUND: MULTIMODAL LISTENING,  
BODILY PEDAGOGIES, AND EVERYDAY EXPERIENCE**

Steph Ceraso, PhD

University of Pittsburgh, 2013

My dissertation re-imagines the teaching of listening in rhetoric and composition to account for sonic experiences in the twenty-first century. Technologies such as audio editing and music software allow users to control sound in ways that were not possible for the average listener before personal computers and digital audio devices became widely available. While digital technologies have presented new opportunities for re-thinking how to teach listening in relation to composing, they have also resulted in a selective and limited understanding of how sound works and affects in the world at large. The aim of my dissertation is to offer a listening pedagogy that helps students capitalize on the compositional affordances of sound in digital contexts *and* retrains them to become more thoughtful, sensitive listener-composers of sound in any setting.

Drawing from the listening and composing practices of deaf musician Evelyn Glennie, acoustic designers, and automotive acoustic engineers, I propose an expansive, explicitly embodied approach to the teaching of listening in rhetoric and composition. The listening pedagogy I introduce is based on my concept of *multimodal listening*, a practice that involves attending to the sensory, material, and contextual aspects that comprise and shape a sonic event. Unlike ear-centric listening practices in which listeners' main goal is to hear and interpret audible sound (often language), multimodal listening practices move beyond the exclusively audible by emphasizing the ecological relationship between sound, bodies, and environments. I

argue that cultivating multimodal listening practices will enable students to become more savvy consumers and producers of sound in the composition classroom and in their everyday lives.

## TABLE OF CONTENTS

<b>ACKNOWLEDGEMENTS.....</b>	<b>vii</b>
<b>1. TOWARD MORE EXPANSIVE LISTENING AND SONIC COMPOSING PRACTICES.....</b>	<b>1</b>
<b>I. SOUND AND LISTENING IN RHETORIC AND COMPOSITION.....</b>	<b>13</b>
<b>2. (RE)EDUCATING THE SENSES.....</b>	<b>31</b>
<b>I. COME ON FEEL (AND SEE AND TOUCH) THE NOISE.....</b>	<b>37</b>
<b>II. MULTIMODAL LISTENING PEDAGOGY.....</b>	<b>43</b>
<b>III. MULTIMODAL LISTENING AND MULTIMODAL COMPOSING.....</b>	<b>49</b>
<b>3. SOUNDING SPACE, DESIGNING EXPERIENCE.....</b>	<b>64</b>
<b>I. AN ECOLOGICAL APPROACH.....</b>	<b>70</b>
<b>II. LISTENING BODIES AND THE RHETORICITY OF SOUND.....</b>	<b>81</b>
<b>III. THE SOUNDING PITTSBURGH PROJECT.....</b>	<b>90</b>
<b>4. A TALE OF TWO SOUNDSCAPES.....</b>	<b>100</b>
<b>I. AUDIO TRACK.....</b>	<b>101</b>
<b>II. SCRIPT.....</b>	<b>101</b>
<b>5. SOUNDING CARS, SELLING EXPERIENCE.....</b>	<b>111</b>
<b>I. SOUNDING CARS.....</b>	<b>119</b>
<b>II. DESIGNING SONIC PRODUCTS.....</b>	<b>132</b>
<b>III. TOWARD A BODY-CENTRIC MULTIMODAL EDUCATION.....</b>	<b>150</b>

<b>6. LISTENING AND COMPOSING AS PLASTIC ARTS.....</b>	<b>153</b>
<b>I. MULTIMODAL LISTENING PEDAGOGY AND RHETORIC AND     COMPOSITION.....</b>	<b>155</b>
<b>II. MULTIMODAL LISTENING AND EVERYDAY COMPOSING     PRACTICES.....</b>	<b>164</b>
<b>III. TOWARD A MORE SOUNDFUL APPROACH TO RHETORIC AND     COMPOSITION.....</b>	<b>175</b>
<b>WORKS CITED.....</b>	<b>177</b>

## ACKNOWLEDGEMENTS

I am grateful to have been a part of Pitt’s graduate program in Composition, Literacy, Pedagogy, and Rhetoric, which allowed me to pursue intellectual questions that do not fit neatly into disciplinary categories. I want to thank my amazing committee, Don Bialostosky, Steve Carr, Annette Vee, and Jess Enoch, for sharing their feedback, time, and energy with me. I owe a special thanks to my chair, Don, who has been setting my brain on fire since we first met. For the past five years, I have been leaving Don’s office full of excitement and ideas. It has been a real pleasure working with such a generous thinker and listener. I also want to acknowledge Jamie “Skye” Bianco for supporting this project in its early stages and for pushing me to take more risks in my writing and thinking.

Many thanks to Dame Evelyn Glennie, who took time out of her busy world tour to let me interview her—a thrilling experience for me as a scholar and a fan—and to the acoustic designers who were kind enough to answer my questions (even if they did not understand why someone from an English department would be interested in sound design and architecture).

I want to thank my family, especially my parents and grandparents, for their unwavering support from pre-school to the present. I would have never made it this far without them. I also want to thank my wonderful friends and colleagues at Pitt: Dahliani Reynolds, for making me laugh to the point of tears on more than one occasion; Jean Bessette, for her smart commentary and pep talks; Pamela VanHaitsma, Erin Anderson, Trisha Red Campbell, and Kerry Banazek

for their wisdom, enthusiasm, and camaraderie. And of course, I want to thank Dan Brown for his love and encouragement, and for forcing me to take breaks when I needed them most.

Finally, I would like to dedicate this dissertation to my late grandfather, Steven J. Koleck. Grandpa Steve's voracious curiosity and passion for education was contagious, and he made sure I caught that bug at a very early age. He will always be an inspiration to me.

*It's a chilly Pittsburgh morning, and I join the group of bodies huddled together on the corner. There are ten of us waiting impatiently for the bus. Fifteen minutes pass and no one has said a word. About half of us are listening to iPods, and the other half are absorbed in the sights and sounds of smartphones. The bus finally comes. We get in and spread out, each person sitting as far away from the others as possible in order to attend to our digital devices in peace.*

*Starbucks is bustling. Muffled music is leaking from the earbuds of a woman standing in front of me. The line is moving so slowly. Across the room a man looks annoyed as the next song in the corporate playlist comes on over the loud speakers. He plugs his earbuds into his laptop and continues typing. Unlike the other songs I heard while waiting in line, which provided an unobtrusive sonic wallpaper, this one has an aggressive beat that is hard to ignore. I order my coffee and decide to put on my iPod too.*

*I walk across campus, iPod full blast, and shuffle into my classroom. My students are already in their seats, and most of them are sporting the same earbuds as I am—all of us trying to squeeze in a few more songs before the start of class. I press pause and survey the scene. Almost everyone is staring at a laptop screen. A woman in the back of the class is talking in a whisper on her smartphone. Several others remove their earbuds and lean closer to a classmate's screen to hear the sound of a viral YouTube video. Though we are all physically in the same space, we choose to immerse ourselves in separate sonic experiences; when given the opportunity, we are nearly always sonically elsewhere.*

## **1. Toward More Expansive Listening and Sonic Composing Practices: A Multimodal Approach**

These scenes from my everyday life capture the essence of what it is like to be a digitally-connected body moving through the world today. More often than not, engaging with digital technologies involves disengaging with one's immediate environment. Sound, in particular, seems to be one of the most effective and desirable modes of disengagement. We plug earbuds into digital devices and crank up the volume to immerse ourselves in the sounds of our own choosing. I cannot remember the last time I did not see masses of people—in the streets,

riding public transportation, hanging around campus—with wires dangling from their ears.

Though I do not believe that digital technologies are inherently “good” or “bad,” these technologies do have a profound effect on the ways that we are conditioned to listen. In order to better understand these effects and their implications, contemporary listening practices need to be questioned and explored more thoroughly: How has our digital connectedness changed the ways we listen to the world around us? What have we gained or lost by incessantly listening to sound via screens, earbuds, and tiny computer speakers? What does it mean to be a sensitive and thoughtful listener at this moment in time?

My dissertation examines these questions and proposes alternative listening practices that account for the highly contextual, ecological, and embodied aspects of sonic experience. While digital technologies encourage listening practices that rely on hearing—what I call “ear-centric” listening—I am interested in how bodies can be retrained to attend to sound via multiple sensory modes. Indeed, listening is an ideal practice for better understanding multimodal experiences because unlike visual or tactile experiences, interactions between sound and the body depend on vibrations. This vibratory aspect of sound is the reason that listening, though it is not usually treated as such, is a multimodal event that often involves the synesthetic convergence of sight, sound, and touch. That is, sound is often experienced via multiple sensory modes—it can be seen, heard, and felt—at the same time. For example, low sound frequencies (below 20hz) produce vibrations that are felt (i.e. the experience of being at a concert and feeling the sound of the drums in your throat and stomach). It is also possible to see sound. Sonic vibrations from a band playing at a restaurant might disturb the water in your glass. Or, one may encounter the visualization of sound (as jagged waves) in audio editing software. Even the simple act of seeing the source of a sound you hear and/or feel can play a role in shaping your listening experience.

I want to suggest that the multimodal aspects of sound are worth considering because they can provide insight into how sound works as a mode of composition and an affective (often rhetorical) force in everyday life. Sound is frequently employed as a rhetorical device in texts, products, and spaces to persuade bodies to feel and behave in specific ways. From marketing to architecture to web design, sound is used strategically to encourage people to spend money, or to move through or linger in spaces, or to trigger a particular mood. In addition, random sonic experiences, or sonic encounters that have not been pre-designed to produce specific effects/affects, can have just as much or more of an affective impact on our embodied experiences. On the one hand, paying attention to how sound works as a situated embodied event, as opposed to something that is heard exclusively through the ears, can make listeners more critical *consumers* of sound; it can help them develop a deeper understanding of how sound is being employed to try to manipulate them in different situations. On the other hand, because attending to the multimodal aspects of sonic encounters can provide information about how sound works as a mode of composition to create particular effects/affects—intentional or unintentional—listeners can use this information to become more critical *producers* of sound as well. Thus, I see a unique opportunity for rhetoric and composition scholars to re-imagine how we might teach listening as a means of preparing students to become more thoughtful participants in and designers of sonic experiences, both digital and non-digital. Below I examine some of the limitations and affordances of contemporary listening habits to elucidate why listeners need to develop multimodal listening practices. I also elaborate on why the rhetoric and composition classroom serves as a valuable training ground for the teaching of listening in relation to multimodal interaction and production.

Sensory interactions with sound are etiolated in digital contexts. In fact, most digital sound technologies are designed with the assumption that listeners are not overly sensitive or attentive to the quality of sonic experience. For example, mp3s, the most popular format for audio consumption today, are created by intentionally reducing the quality of sound files. In technical terms, mp3s are created via compression, a process that removes repetitive information (or information that is unlikely to be audible) and greatly reduces the size of the audio file. With mp3s, the goal is simply for listeners to *hear* sound, no matter how deteriorated that sound happens to be. Content trumps the quality of sensory experience in this case, and most digital technologies that are designed for audio consumption seem to be based on a similar principle. For instance, while the visual features of digital technologies continue to improve in quality (i.e. we can now watch high definition movies on extremely small screens), the sonic features have gotten short shrift. Computer speakers, especially on laptops, produce a tinny sound at best. The iconic iPod earbuds enable listeners to hear compressed audio files through low quality headphones. But for most listeners, this is good enough. The majority of listeners, and I include myself in this majority, continue to consume sound via earbuds or miniscule speakers because these are the technologies available to us—the technologies that allow us to stay connected to everything and everyone in the digital world. By repetitively experiencing sound in digital contexts, however, listeners have become accustomed to highly controlled but sensorially diminished sonic experiences.

Digital technologies are shaping our listening habits by encouraging us to pay attention to certain kinds of sounds and to ignore others. For example, digital sound devices make it easy for listeners to create sonic boundaries around themselves, thus allowing them to focus on what is being funneled through their ears (via smartphones, iPods, computers, etc.) or on the sounds

associated with the screen that they are watching. Sounds that happen to leak into these sonic bubbles and disturb their customized experience are considered distractions. However, by not paying attention to those distractions plugged in listeners are missing out on the larger world of sound that they are situated in; and by concentrating only on the content streaming into their ears, listeners tend to ignore how environmental sounds are affecting the rest of their bodies. While using technologies to create private listening experiences is not a novel practice—technologies like the gramophone, car radio, or Walkman were employed to do this long before digital audio technologies became available—what is new and significant about digital audio technologies is their pervasiveness in home, work, and social environments. It is possible and apparently desirable to be plugged in nearly all of the time. By encouraging listeners to ignore the larger sonic environment and their bodily responses to it, digital audio technologies play a major role in training listeners to develop selective, ear-centric listening habits.

While digital technologies have diminished the sensory experience of sound in some ways, they have also enhanced listeners' capacities to control and compose with sound. Sonic advancements in digital media have encouraged a re-thinking of listening as a mode of composition—as a practice that is associated with production as opposed to passive consumption. One of the key affordances of digital audio technologies is that they have given listeners opportunities to design and manipulate sound in ways that were once limited to sound professionals (recording engineers, radio technicians, etc.). Listeners also have more access to easily downloadable audio files than ever before, which they can choose to consume, organize, manipulate, and remix. Technologies like audio editing and music software allow users to control sound in ways that were not possible for the average listener before the mass popularity of personal computers and digital audio devices.

These digital technologies have incited new opportunities for re-thinking how to teach listening in relation to composing. At the same time, however, the diminished sensory experience of sound in digital contexts has resulted in a selective and limited understanding of how sound works as a mode of composition and an affective (often rhetorical) force in the world at large. In rhetoric and composition, we have not yet developed a substantial listening pedagogy that accounts for the listening habits and sonic experiences that have emerged during the twenty-first century. Thus, as I see it, the challenge for teachers of rhetoric and composition is this: how can we teach students to cultivate listening practices that allow them to capitalize on the affordances of sound in digital contexts while retraining them to become more sensitive, savvy listener-composers of sound in any setting?

As a response to this challenge, my dissertation offers a listening pedagogy based on what I call “multimodal listening” practices. Multimodal listening practices require attending to both the bodily experience of sonic interactions—to the various ways that sound is felt throughout the body via vibration—and to the multiple sensory modes that can be employed and/or engaged with during sonic interactions. As I discussed above, listening often involves experiencing sound via multiple sensory modes. My term “multimodal listening” serves as a way to amplify and call attention to the frequently overlooked multimodal aspects of listening. However, my choice to highlight the embodied, sensory aspects of multimodality with this term is distinctly different from most scholarship on multimodality. For example, scholars (most notably Gunther Kress, Theo Van Leeuwen, and the New London Group<sup>1</sup>) tend to discuss multimodal communication practices through a semiotic framework. The end goal of this research on multimodality is meaning making. As Kress writes in *Multimodality* (2010), “There

---

<sup>1</sup> For more information on the New London group, see Cope and Kalantzis’ collection *Multiliteracies: Literacy Learning and the Design of Social Futures* (2000).

are domains beyond the reach of language, where it is insufficient, where semiotic-conceptual work has to be and is done by means of other modes” (15). This is a common way of discussing multimodality in rhetoric and composition as well. For instance, Cynthia Selfe and Gail Hawisher explain that multimodal texts “use multiple modalities to convey meaning—moving and still images, sounds, music, color, words, and animations” (1). Although this scholarship about multimodality acknowledges modes that are extra-discursive (like sound), the ultimate pursuit of meaning making positions multimodal approaches in the same realm as the discursive: a realm where objects are analyzed and interpreted. I would argue that multimodality cannot be treated merely as an enhanced hermeneutic, or as a category that is subsumed by hermeneutics. Alongside and in addition to semiotic approaches to multimodality, it is necessary to come up with approaches that consider the affective, embodied, *lived* experience of multimodality. Thus, my term multimodal listening encompasses both the semiotic and the embodied, sensory aspects of multimodal experiences, which I see as significantly interconnected.

Listening is often associated with paying attention, or with focusing intensely on one thing. The key is not to get distracted. In contrast, to listen multimodally, one must attend to the distractions. That is, instead of only homing in on specific content, multimodal listeners also attend to what usually gets ignored when we are plugged into digital devices: context, material environment, and embodied experience. My point is that listening only with one’s ears for specific content or meaning is a kind of attention blindness. As Cathy Davidson notes, attention blindness occurs when we concentrate so much on one task (or message or person or thing) that it “causes us to miss just about everything else” (2). In addition to content and meaning, multimodal listening requires paying attention to “everything else”; being aware of how sound is connected to and intertwined with different sensory modes, environments, bodies, and materials.

Rather than a fixed kind of attention, multimodal listening involves a *distributed* or *dispersed* attention—a general openness to the sonic world and its complexities. More so than ear-centric listening practices, then, multimodal listening reflects the kind of non-linear, immersive, distributed learning that is associated with digital media. In this sense, it is a practice that is especially suited for the learning habits that students have already been developing via interacting with hyper-linked digital environments.

At this point one might assume that my project is only relevant to people with working ears, myself included. However, my inquiry into contemporary listening practices is relevant to deaf and hard-of-hearing individuals as well. Despite the fact that sound is often a tactile experience, listening in digital contexts encourages ear-centric listening. One cannot feel the sonic vibrations from laptop speakers or iPods as one might feel the sonic vibrations from a Mack truck (at least not yet).<sup>2</sup> Because experiencing sound as a form of touch is a crucial aspect of listening for many deaf and hard-of-hearing individuals, they are excluded from the majority of sonic experiences in digital environments. However, the ear-centric listening practices encouraged by digital media exclude hearing listeners from the tactile experience of sound too, thus taking away opportunities to enhance their understanding of how sound *affects*—how sound works as a physical force that shapes how we experience the world.

Rather than pitting deaf and hearing individuals against each other, the expansive listening practices I am proposing can benefit everyone, working ears or not. The listening practices that deaf and hard-of-hearing individuals have cultivated outside of digital contexts provide a productive model for teaching hearing individuals to become more sensitive to the

---

<sup>2</sup> There are signs that new audio technologies will amplify the tactile affordances of sound. For example, headphones called “Crushers,” which will be available in stores in the near future, use speaker technology to produce “vibrations that are perceived as powerful bass notes” via bone conduction (Furchgott). The goal of this device is to enable listeners to physically experience music through vibration.

ways that sound works and affects. Indeed, as I will demonstrate in the next chapter, people who do not have the option of relying on their ears have the most to teach hearing individuals about practicing listening in more expansive ways. Additionally, teaching hearing listeners to be more aware of the sonic limitations in digital environments could help to inform their decisions as designers and producers of sound, and thus encourage them to come up with more inclusive ways of interacting with the sonic compositions that they produce (i.e. designing sonic compositions that can be experienced via a combination of text, images, or videos instead of designing an audio-only experience).

My main argument in this dissertation is that multimodal listening practices enable listeners to cultivate expansive listening and composing techniques that will help them become more thoughtful, sensitive consumers and producers of sound. In the chapters that follow, I examine intertwined multimodal listening and sonic composing practices in a variety of different professions, environments, and everyday experiences outside of rhetoric and composition and discuss how these extra-disciplinary practices could inform the teaching of listening in the field. In turn, I demonstrate how rhetoric and composition can contribute to a critical listening education that is relevant to a wide array of activities and professions, as well as to students' everyday lives. I want to be clear that I am not calling attention to multimodal listening and sonic composing practices in extra-disciplinary spaces so that they can be replicated perfectly in the multimodal composition classroom. Rather, I position these extra-disciplinary practices as heuristics that I hope will embolden teachers to re-imagine listening pedagogy as a means of helping students develop critical habits that can translate to a variety of experiences in their personal and professional lives.

In order to fuel this kind of re-imagination, each chapter provides different pathways and possibilities for teaching expansive listening practices. Though the chapters cover practices in seemingly disconnected contexts, the projects and examples I describe throughout my dissertation all emphasize what I consider to be the core features of multimodal listening pedagogy—*embodied experience, play/experimentation, interactions with a range of different sonic environments, defamiliarization, reflecting on ingrained habits, collaboration, and listening as inquiry*. These projects and examples are intended to supply a generative foundation for further discussions and transformations of listening pedagogy in rhetoric and composition and beyond.

In **Chapter 2, “(Re)Educating the Senses: Multimodal Listening, Bodily Learning, and the Composition of Sonic Experiences,”** I elaborate on multimodal listening as a learned bodily practice. In order to provide an example of multimodal listening in action, I examine the listening practices of deaf percussionist Evelyn Glennie. Drawing from a personal interview with Glennie, as well as from the various media that have documented her listening training and experiences, I discuss the key role of the body in multimodal listening practices and explain how past bodily experiences with sound shape listening habits. I conclude by offering some specific ways that multimodal listening practices can expand and enrich students’ composing practices. The aim of this chapter is to provide teachers with the general framework for multimodal listening pedagogy, which I argue can help us develop a more body-centric approach to sonic engagement and production in the composition classroom.

In **Chapter 3, “Sounding Space, Designing Experience: Multimodal Listening, Soundscapes, and the Ecological Practice of Sonic Composition,”** I examine the dynamic relationship between sound, space, and bodies through the field of acoustic design—the

professional practice of manipulating sound for different venues. Acoustic designers' multimodal listening and composing practices involve attending to the entire network of sensory and material elements associated with sonic production. Thus, my analysis illustrates how the expansive conceptions of listening and multimodality in an acoustic design context could inform listening pedagogy in rhetoric and composition. I argue that attending to multimodal interactions with soundscapes (the sonic equivalent of landscapes) in everyday life can lead to a deeper understanding of how sound works to shape holistic multimodal experiences. I conclude this chapter by describing one possible approach for implementing multimodal listening practices in the composition classroom via the "Sounding Pittsburgh" project—an assignment in which my students composed digital soundscapes of Pittsburgh neighborhoods.

**Chapter 3.5, "A Tale of Two Soundscapes: The Story of My Listening Body,"** serves as a creative, critical interlude. This digital audio piece entwines narrative, field recordings, and engineered sound to tell the story of my personal experience moving from Cullowhee, North Carolina, a quiet town nestled in the Smoky Mountains, to the noisy city of Pittsburgh, Pennsylvania in 2008. More specifically, it traces the ways that two very different soundscapes affected my listening body and changed how I learned to listen to the world. By sonically enacting the arguments of my dissertation—particularly chapter 3—this piece takes advantage of the affordances of sound that are not available in exclusively textual chapters.

In **Chapter 4, "Sounding Cars, Selling Experience: Multimodal Listening and the Sonic Composition of Consumer Products,"** I consider the highly controlled sonic environment of the automobile. I first examine the listening and sonic composing practices of automotive acoustic engineers, arguing that their physical, playful, and experimental approach to sound provides an ideal model for teaching multimodal listening in relation to sonic composition.

I also explore the multimodal listening and sonic composing practices associated with cars from the perspective of the consumer, illustrating the ways that drivers employ many of the same practices as automotive acoustic engineers in order to construct particular kinds of experiences. In doing so, I amplify how familiar, everyday sonic experiences can be viewed as dynamic forms of multimodal composition. In the second part of the chapter, I examine how the sonic composing and multimodal listening practices that are associated with cars can be applied to sonic products/experiences more broadly. I provide an example of how these practices could be put to use in the multimodal composition classroom by presenting a detailed assignment sequence that asks students to analyze and compose their own sonic products with a mix of modes and materials (digital and non-digital). In proposing an assignment sequence that requires students to invent, design, and create their own consumer products, this chapter offers the most experimental approach to exploring the relationship between listening and production in the multimodal composition classroom.

In **Chapter 5, “Listening and Composing as Plastic Arts: The Purpose, Value, and Extensive Reach of Multimodal Listening Pedagogy,”** I examine multimodal listening as a flexible, adaptable practice that students can apply to a host of settings in school and in everyday life. I discuss how multimodal listening pedagogy can contribute to rhetoric and composition via offering more expansive notions of multimodality, recovering the sonic and multimodal features of alphabetic texts, and opening up possibilities for interdisciplinary connections and practices. I also outline some of the ways that multimodal listening pedagogy can enhance students’ encounters with sound and multimodal experience beyond the academy, focusing specifically on new social forms of sonic composing, Remix Culture, and DIY (Do-It-Yourself) making practices. My goal in this final chapter is to show that multimodal listening pedagogy gives

students a chance to cultivate listening and composing practices that are relevant to their work in the academy and to a variety of experiences in their personal lives.

## **I. Sound and Listening in Rhetoric and Composition**

Before exploring sound and listening practices in extra-disciplinary spaces, I want to acknowledge how my dissertation intersects with sound and listening scholarship in rhetoric and composition. I see my project on multimodal listening most directly engaging with and building on three areas of rhetoric and composition sound and listening discourse: feminist rhetorical scholarship on listening, disability studies scholarship on deafness, and multimodal composition scholarship on sound. Though it has an extensive disciplinary history,<sup>3</sup> scholarship on sound and listening became noticeably amplified in rhetoric and composition during the 1990s and 2000s. Much of this scholarship deals with listening practices that are contingent upon the ears (literally and/or metaphorically); it also tends to privilege listening practices that are most concerned with making meaning of language—especially in relation to oral speech, written texts, and music lyrics.<sup>4</sup> While scholarship in the areas of feminist rhetorics, disability studies, and multimodal composition perpetuate some ear-centric, language-centric ideas about sound and listening, I would argue that this work moves beyond a primary focus on words and ears by calling attention to the *bodily*, *contextual*, *material*, and *ecological* aspects of listening and sonic composing practices. One of the goals of my project is to synthesize and expand the nuanced discussions

---

<sup>3</sup> See Cynthia Selfe’s “The Movement of Air, the Breath of Meaning: Aurality and Multimodal Composing” (2009) for a historical review of rhetoric and composition scholarship on aurality, which encompasses the various ways that sound and listening have been discussed in the discipline.

<sup>4</sup> Even when sound and listening are employed metaphorically in relation to written texts, they are almost always discussed in terms of hearing/the ears. For instance, rhetoric and composition teachers often encourage students to “listen” for dissonance or harmony in texts as they are reading or to try to “hear” the voice of the author.

about sound and listening that have emerged from disciplinary work in feminist rhetorics, disability studies, and multimodal composition. To get a better sense of these nuanced discussions, below I have chosen examples that stress some of what I consider to be the most boundary-pushing ideas about sound and listening from each body of work, all of which play an essential role in multimodal listening practices: 1) listening is always a learned, embodied, contextual practice, 2) listening need not depend on the ears, 3) critical listening practices require self-reflection, 4) digital technologies have much to contribute to the development of more expansive listening practices, 5) listening and sonic composing practices are necessarily entwined, and 6) critical listening practices need to account for the relationship between sound, bodies, materials, and environments.

### *Feminist Rhetorical Scholarship on Listening*

Scholarship on listening gained significant momentum in feminist rhetorical work throughout the 1990s and 2000s. In part, this work served as a feminist act to recover listening, a practice that had been undervalued and/or neglected in rhetorical scholarship. It was also a response to an increasingly urgent need to find ways for feminist scholars to better communicate across racial and cultural difference. What I find most valuable about feminist rhetorical scholarship in terms of my work on multimodal listening is its acknowledgement that listening practices are not merely contingent on words, but shaped by embodied experiences in particular contexts. For example, Jacqueline Jones Royster's 1994 CCCC chair's address, "When the First Voice You Hear Is Not Your Own" (subsequently published in a 1996 issue of *CCC*) is often cited as a foundational text in feminist listening scholarship. In one of the most striking moments

in her address, Royster describes the reaction to a lecture she gave in which she tried to capture the voices and sounds of the characters in a novel. She writes,

When the characters spoke in the scene, I rendered their voices, speaking and explaining, speaking and explaining, trying to translate the experience, to share the sounds of my historical place and to connect those sounds with systems of belief so that deeper understanding of the scene might emerge, and so that those outside of the immediacy of my home culture, the one represented in the novel, might see and understand more and be able to make more useful connections to their own worlds and experiences. (36)

However, instead of articulating “useful connections” an audience member chose to applaud Royster for using her “authentic voice,” implying that Royster was being more authentically African-American because she was not speaking in her formal “academic voice” (36). Rather than relating to the novelistic experiences that Royster was conveying, the listener called attention to Royster’s racial difference among an audience of mostly white academics. The listener’s response to this talk was heavily influenced by Royster’s bodily presence in a particular (academic) context, and by the cultural and historical stereotypes associated with Royster’s body. As opposed to discussing listening in an abstract or disembodied way, the scenes of listening that Royster describes in her address are scenes of situated, embodied experience. Royster illuminates the critical connections between sound (in this case the sound of language), bodies, and context during a listening event.

Cheryl Glenn’s *Unspoken: A Rhetoric of Silence* (2004) has also proved to be an invaluable model for my conception of multimodal listening because it extends Royster’s argument by going into more detail about how listening situations shape and are shaped by embodied experiences, contexts, and material realities. Throughout her text, Glenn exposes how

listening (and being listened to) always involves more than speaking and hearing. For example, in her analysis of Anita Hill's silence prior to testifying against Clarence Thomas, Glenn describes how race and gender were critical in predicting who would listen to Hill. By citing the "politicocultural logics" of the Bush administration's Supreme Court nomination of Clarence Thomas—a well-known conservative black judge—Glenn sets the larger contextual scene of Hill's eventual testimony: "What liberal, what NAACP member, what civil rights leader, could vote against black representation?" (53, 54). The politically and racially charged circumstances surrounding Thomas' nomination, Glenn argues, had a major impact on how Hill's testimony was received by the black community. Indeed, when Hill finally did speak to the Senate Judiciary Committee about being sexually harassed by Thomas, the dominant response among blacks was that she should have remained silent (54, 58). Glenn concludes, "Gender plays a strong role in terms of who gets to speak out and be listened to—and who should remain silent. For many, then, Hill should not have betrayed her race for the benefit of her sex" (58). Glenn challenges readers to consider the entire network of sounds, silences, bodies, power dynamics, and material circumstances (and consequences) surrounding a given listening situation. In doing so, she offers an approach to understanding listening as a complex, multi-faceted, and ecological practice.

In *Rhetorical Listening* (2005), Krista Ratcliffe contributes one of the most generous and flexible conceptions of listening in rhet/comp scholarship via inventing the practice of rhetorical listening, or "a stance of openness that a person may choose to assume in relation to any person, text, or culture" (1). Ratcliffe's treatment of listening—an explicit response to Royster's 1994 CCCC address—is relevant to multimodal listening because it highlights the importance of reflecting on one's own embodied listening practices. In addition to examining the external

factors of listening situations (context, power dynamics, etc.), Ratcliffe turns inward and examines how her own race and gender affect the ways that she listens. For example, Ratcliffe recounts how she was encouraged by Susan Jarratt (another feminist scholar) to complicate the role of race in her previous book, *Anglo-American Feminist Challenges to Rhetorical Traditions: Virginia Woolf, Mary Daly, and Adrienne Rich* (1996). Ultimately, Ratcliffe resisted adding a racial dimension to her text because she could not find the language to talk about race in the lives of these Caucasian authors (3). Her resistance to address Jarratt's suggestion caused Ratcliffe to question the role that her own gender and whiteness played in this particular listening context, which led her to develop listening practices that take these aspects of embodied experience into account. Indeed, rhetorical listening practices challenge “unearned privilege and power” by “troubling and denaturalizing the categories of gender and whiteness” (8). Rhetorical listening, in other words, requires questioning our own and others' embodied experiences as opposed to thinking of bodily categories as “neutral” or “normal,” and therefore invisible. Ratcliffe argues that acknowledging the embodied nature of listening will “foster understanding of intersecting gender and race identifications in ways that may promote cross-cultural communication on any number of topics” (34-35). Ratcliffe's text exemplifies a self-reflective dimension to listening practices that I consider to be a fundamental aspect of multimodal listening pedagogy. Reflecting on one's embodied listening habits is the first step in unlearning limiting habits and expanding one's capacities as a listener.

Andrea Lunsford and Adam Rosenblatt's “‘Down a Road and into an Awful Silence’: Graphic Listening in Joe Sacco's Comics Journalism”—a chapter of Glenn and Ratcliffe's edited collection *Listening and Silence as Rhetorical Arts* (2011)—is important for my project of expanding listening practices beyond the ears because it considers listening as a multisensory act.

Lunsford and Rosenblatt's highlighting of Sacco's synesthetic listening practices draws attention to the *collaboration of the senses*. The authors explore the vital role of listening in Sacco's "comics journalism," particularly how he translates various kinds of sensory listenings into a visual account of his experiences as a war reporter. They write, "Sacco often gathers information by 'listening' not only with his ears but with his eyes and other senses. The use of synesthesia enables Sacco to inch closer to the truth of a situation than would otherwise be possible" (131). Sacco's synesthetic listening practices are documented through detailed images of his listening experiences, which often include onomatopoeic descriptions, exaggerated facial expressions and bodily dispositions, and lines that indicate physical movement, smells, or sounds. In other words, Sacco attends to the multiple senses he is experiencing when he listens to a story in a given environment—the sights, smells, sounds, tastes, and textures of his surroundings help him achieve a more comprehensive understanding of the stories he is reporting and his own embodied role in those experiences. Like Royster, Glenn, and Ratcliffe, Lunsford and Rosenblatt stress the primary role of situated, embodied experience in listening events. However, they take the notion of embodiment even further by underscoring the importance of the senses—something that I have identified as a central feature of multimodal listening practices.

The examples I have chosen to highlight only provide a glimpse into the rich work being done on listening in feminist rhetorical scholarship. Taken as a whole, feminist rhetorical scholarship's emphasis on the embodied, contextual aspects of listening situations has helped to elevate conceptions of listening in rhetoric and composition beyond the act of attending to spoken language. It is important to note, however, that much of this work is still focused on the interpretation of meaningful language (as opposed to non-linguistic sound) and reliant on hearing/working ears. In addition, though feminist rhetorical scholarship has touched on the role

of embodiment in terms of discursive identity categories (race, gender, etc.), it has not yet substantially developed the relationship between listening and sensory experience. The ways that senses other than hearing figure into listening practices remains underexamined in this work. In order to sustain and extend the discourse that feminist rhetorical scholarship has initiated about listening, the multimodal listening pedagogy I describe in the following chapters puts a more pronounced emphasis on felt experience—on engaging with (non-linguistic) sound via various sensory modes. Multimodal listening practices strengthen and build on feminist rhetorical scholarship by offering a more explicitly body-centric approach to listening.

### *Disability Studies Scholarship on Deafness*

Disability studies, an area of scholarship that is based on the notion that disability is not a biological fact but a socially constructed category, has been attracting an increasing amount of attention in rhetoric and composition over the last several decades. Anthologies such as *Embodied Rhetorics: Disability in Language and Culture* (2001) and *Disability and the Teaching of Writing: A Critical Source Book* (2007) showcase the broad spectrum of work being done in this subfield of rhetoric and composition, which encompasses institutional, theoretical, and pedagogical perspectives on disability. In particular, disability studies scholarship on deafness has influenced my conception of multimodal listening because of its emphasis on modes of listening beyond the ears. My project is especially indebted to Brenda Brueggemann, a leading scholar on disability/deafness<sup>5</sup> whose work challenges ear-centric assumptions and raises important questions about the embodied aspects of communication. Additionally, scholarship

---

<sup>5</sup> In addition to numerous articles, book chapters, and anthologies, some of Brueggemann's recent work on deafness includes *Literacy and Deaf People: Cultural and Contextual Perspectives* (2004), *Women and Deafness: Double Visions* (2006), and *Deaf Subjects: Between Identities and Places* (2009).

that brings attention to the intersection of deafness and technology has been key in my development of multimodal listening pedagogy. Many disability studies scholars view digital technologies as an opportunity to create more flexible and accessible listening and composing environments. To elaborate on the significance of disability studies scholarship on deafness, below I examine one of Brueggemann's groundbreaking texts, as well as an article from the 2002 disability and technology-themed issue of *Kairos* that deals specifically with deafness.

In *Lend Me Your Ear: Rhetorical Constructions of Deafness*, Brenda Brueggemann argues that relying too much on any one sensory mode (i.e. hearing) results in exclusionary and limiting models of communication. She suggests that deaf modes of listening and rhetorical performance offer more inclusive, expansive kinds of communicative practices than ear-centric modes of listening and rhetorical performance. My multimodal listening pedagogy is in part designed to promote the full-bodied communication practices that Brueggemann advocates for in this book and throughout her work. For instance, she illustrates that for most non-hearing individuals, communication is dependent on embodied interaction and situated response more so than it is for hearing individuals. Brueggemann explains that American Sign Language (ASL), unlike English, “is still an ‘oral’ language in that it has no written forms and can only really exist when two living beings are communicating with each other in the immediate present. Thus, in our late-twentieth century print-immersed culture, sign language locates ‘locution’ uniquely, provocatively, *in body*” (185). Though Brueggemann's discussion is centered upon language (ASL), her examination surpasses descriptions of listening as an interpretation of language by emphasizing the use of multiple sensory modes during the listening process. She cites deaf poetry—a form of creative expression that involves bodily movement, as well as the strategic use of images, spatial configurations, and other modes—as a powerful example of an extra-

discursive listening situation. For example, in her description of “Poetry around the World”—“a poem that presents a visual cornucopia of sensual images...Guns firing, planet’s orbiting, explosions, windows opening, smoke, flames and fire, popcorn popping—Brueggemann stresses how the spacing and rhythm of the image-heavy performance is used to evoke a range of sensory responses (219). In this case, images act as a kind of music that triggers associations with other senses in listener-viewers. Throughout *Lend Me Your Ear*, Brueggemann reveals how the possibilities of listening via multiple sensory channels in deaf contexts can serve as a model for the ways that all rhetoricians, working ears or not, might employ more holistic, full-bodied communication practices.

Michael Salvo’s “Deafened to their Demands: An Ethnographic Study” deals with the complex institutional and personal issues surrounding deaf education. Like Brueggemann’s *Lend Me Your Ear*, Salvo calls attention to how deaf modes of learning are often overshadowed by ways of knowing that depend upon the ears. However, he also explores various ways that digital technologies can provide more inclusive learning environments for all students. I find Salvo’s thoughtful use of digital technology as a means of expanding the capacities of listeners to be a productive move—one that I adopt in multimodal listening pedagogy. In this piece, Salvo writes about his deaf students’ experiences with the affordances and constraints of technology in the computer classroom, and ultimately about his own struggles with attempting to revise his “audist” pedagogy.<sup>6</sup> He notes, for example, “I realized that so much of the teaching that I do asked students to listen to the sounds of words, to hear where the sentence didn’t sound right” (Salvo). Observing John, one of the deaf students in Salvo’s class, interact with his hearing peers was one of the things that triggered Salvo to recognize his “audist” assumptions. While John was

---

<sup>6</sup> Salvo writes, “Audist (race:hearing::racist:audist, Davis 882) culture is itself deaf to its own erasure of the deaf subject position” (Salvo).

assigned an ASL translator to assist him in Salvo's class (located in a computer classroom), the fast-paced collaborative group discussions posed serious communication problems. John quickly fell behind. To change things up, then, Salvo made new class "rules" for his students while working in this networked environment: they were not allowed to speak out loud at all. Instead, all conversation was to take place via text on computers. Though at first things were just as confusing, Salvo writes, "A breakthrough came during the fourth online class...two hearing students commented that they 'heard' John's voice for the first time through the text-based exchange. I agreed, and commented that many students were beginning to develop text-based voices, indicating an increase in fluency in standard written English" (Salvo). Though this was not a long-term solution to problems of accessibility in John's educational experience, Salvo's creation of a visual listening environment (via online textual exchanges) proved to be effective for everyone in the class. In this case, a networked digital environment made it possible to design a more inclusive listening situation. While Salvo questions ear-centric practices in this piece, many teachers assume that their students will have fully-functioning ears and thus assign projects like oral presentations or podcasts without a second thought. Thus, Salvo's reflection serves as an initial conversation starter that could lead to more critical discussions about deafness and bodily capacities in rhetoric and composition scholarship—discussions that I continue in the following chapters.<sup>7</sup>

---

<sup>7</sup> Sean Zdenek's "Accessing Podcasting: College Students on the Margins in the New Media Classroom" (2009) is one article that has extended Salvo's questioning of "audist" assumptions. Interestingly, rather than turning to digital technologies as a way to expand listeners' capacities, Zdenek critiques the "audist" assumptions that exist in the use of podcasting in rhetoric and composition classrooms (and elsewhere). I mention this text here because it is important to understand that digital technologies are not merely a "cure all" that will make everything accessible to everyone. Reflecting on both the affordances and limitations of the technologies we employ in the classroom, a central practice of multimodal listening pedagogy, plays a critical role in designing accessible, flexible projects and learning environments.

In general, disability studies scholarship on deafness has ignited necessary conversations about the importance of considering bodily limitations and capacities in a rhetoric and composition context. However, like the work I have cited above, much of this scholarship is either produced by someone with a disability or prompted by an encounter with a “disabled” person. One of the biggest challenges for disability studies scholars is figuring out how to reach a wider audience—an audience that includes able-bodied people and those who do not associate themselves with “disability studies.” As Margaret Price puts it: “How can this project [of incorporating disability studies into our pedagogies] engage students, not to mention teachers, of all abilities, including those who do not specialize in disability studies or are not themselves disabled?” (55). I attempt to address this question via multimodal listening pedagogy, which is designed to help listeners of *all capacities* cultivate critical listening habits. In other words, I employ a disability studies approach to listening—one that relies on multiple modes as opposed to only the ears—and integrate it into a pedagogy that can be used in any multimodal composition classroom (as opposed to a pedagogy that is designed specifically for a student or students with disabilities). Rather than having to change or make exceptions to sonic composing assignments because of deaf students, then, multimodal listening pedagogy makes it possible for anyone—working ears or not—to participate in classroom activities.<sup>8</sup> This is not to say that deaf and hearing students will participate in the same way. What a multimodal listening pedagogy

---

<sup>8</sup> In this sense, the incorporation of multimodal listening into a rhetoric and composition curriculum is a form of universal design, a concept which “holds that one should design spaces and learning environments for the broadest possible access” (Dolmage and Lewiecki-Wilson 26). Patricia Dunn’s *Talking, Sketching, Moving: Multiple Literacies in the Teaching of Writing*, which also played a part in inspiring my multimodal listening pedagogy, provides an example of how the concept of universal design can be used to create more accessible and flexible opportunities in composition. Dunn proposes the use of multiple modes and pathways—talking, sketching, moving—in order to broaden writing instruction in ways that engage a more diverse range of learners. Multimodal listening pedagogy aspires to accomplish a similar goal in terms of listening and sonic composing practices.

offers, though, is a range of diverse ways to participate in classroom activities involving sound and listening. Thus, my project's capacious approach to listening is intended to be a step toward disability studies' larger project of developing more inclusive pedagogies.

### *Multimodal Composition Scholarship on Sound*

From the late-1990s to the present, sound has been a trending topic in multimodal composition scholarship. While scholarship on music is sprinkled throughout the history of rhetoric and composition,<sup>9</sup> *Enculturation's* 1999 issue on "Writing/Music/Culture" helped to pave the way for future investigations of sound and multimodality.<sup>10</sup> By the mid-2000s multimodal composition scholarship on sound had become a well-established area of the field.

*Computers and Composition* and *Computers and Composition Online* published two distinct but related special issues on "Sound in/as a Compositional Space" (2006) that examine sound as a mode of composition from theoretical and practical perspectives. Cynthia Selfe's work, particularly *Multimodal Composition: Resources for Teachers* (2007) and "The Movement of Air, the Breath of Meaning: Aurality and Multimodal Composing" (2009), has also played a noteworthy role in encouraging teachers to incorporate sound into the multimodal composition curriculum. The body of work on sound in multimodal composition covers a wide range of

---

<sup>9</sup> See, among others, Frantz's "Music and the Writing Experience" (1952), McElvain's "The Creative Process: The Relationship of the Musical and Literary Composer" (1968), Carter's "The Beatles and Freshman English" (1969), Zaluda's "Sophisticated Essay: Billie Holiday and the Generation of Form and Idea" (1991), Sirc's "Never Mind the Tagmemics, Where's the Sex Pistols?" (1997), Rickert and Salvo's "The distributed *Gesamptkunstwerk*: Sound, Worlding, and New Media Culture" (2006), and Elbow's "The Music of Form: Rethinking Organization in Writing" (2006).

<sup>10</sup> Guest co-editors Byron Hawk and Thomas Rickert write, "For us, music is not composed, not just a composition, but an active force in composing new relations, new evocations, between self and other, between language and mood, between culture and individuals" ("Intro"). Though "Writing/Music/Culture" is not explicitly about multimodality, its contents underscore the role of sound and music in digital environments, particularly in relation to bodies, affect, and culture. This issue was also one of the first to employ sonic content, thus exemplifying the affordances of sound as a medium for scholarship in digital environments.

subjects, from composing rhetorically effective voiceovers to the revival of performance and the fifth canon that digital audio technologies have incited.<sup>11</sup> However, the multimodal sound scholarship that has most informed my project deals with topics that remain largely underdeveloped: the relationship between sound, bodies, and environments; and the entwined relationship between listening and composing. Below I discuss two texts that take up these topics, which have influenced my thinking about multimodal listening practices.

In “Voice in the Cultural Soundscape: Sonic Literacy in Composition Studies,” Michelle Comstock and Mary Hocks consider listening as a learned practice—an idea that has curiously received little attention in multimodal composition scholarship on sound. Comstock and Hocks’ discussion of listening is critical to my multimodal listening pedagogy because like Ratcliffe’s *Rhetorical Listening*, it debunks the notion that listening is a natural ability. For example, the authors write,

Listening, unlike the largely involuntary and passive (unconscious) process of hearing, is the development of sonic literacy; it requires the listener to focus actively, to draw on knowledge of past experiences with sound and to understand all listening as culturally situated...Listening is an art, a conscious process of observing and defining sound. And like the art of writing, it is affected by one’s place in and knowledge of a particular sonic

---

<sup>11</sup> However, some clear topical trends have emerged in this growing body of work. The subject of podcasting, for instance, has generated much interest. For example, see Dangler, McCorkle, and Barrow’s “Expanding Composition Audiences with Podcasting” (2007), Zdenek’s “Accessing Podcasting: College Students on the Margins in the New Media Classroom” (2009), Jones’ “Podcasting and Performativity: Multimodal Invention in an Advanced Writing Class” (2010), and Bowie’s “Rhetorical Roots and Media Future: How Podcasting Fits into the Computers and Writing Classroom” (2012). There has also been a large amount of scholarship devoted to the relationship between sound and plagiarism/copyright in a digital context. See DeVoss and Porter’s “Why Napster Matters to Writing: Filesharing as a New Ethic of Digital Delivery” (2006), Hess’ “Was Foucault a Plagiarist? Hip-Hop Sampling and Academic Citation” (2006), Johnson-Eilola and Selber’s “Plagiarism, Originality, Assemblage” (2007), and DeVoss and Webb’s “Media Convergence: Grand Theft Audio: Negotiating Copyright as Composers” (2008), to name a few.

environment as much as one's previous experiences with sonic forms. (Comstock and Hocks)

Throughout this text, Comstock and Hocks underscore listening as a transformative practice that continues to evolve as we accumulate more experiences, as opposed to a skill that can be mastered and forgotten. Much like feminist rhetorical scholarship on listening, Comstock and Hocks promote reflective listening habits that take situated, embodied experiences into account. However, their approach to cultivating critical listening habits is distinct in that they focus on *production* as a key part of listening education; they argue that developing thoughtful listening practices is best achieved via the act of sonic composition. For example, Comstock and Hocks describe “sonic literacy” as both “a critical process of *listening to and creating* embodied knowledge,” and “the ability to identify, define, situate, construct, manipulate, and communicate our personal and cultural soundscapes” (my emphasis). In creating sonic compositions, students get practice attending to how sound *affects* bodies (resulting in “embodied knowledge”), as well as how sound works in different contexts for different audiences. Sonic composing, then, is an excellent way to train students to listen in more expansive ways—to attend to sound as part of a larger network of experiences and associations—as opposed to training them to listen to and interpret sound exclusively.

Thomas Rickert's “Music@Microsoft.Windows: Composing Ambience” (2010) has been central to my development of a multimodal listening pedagogy because it offers an important perspective on sound as a part of an ecology; it considers sound in relation to bodies, materials, and environments in explicitly sensory ways. Rickert discusses musician Brian Eno's task of composing Microsoft Windows' startup music, which is supposed to express a long list of adjectives and feelings (inspiring, futuristic, optimistic, etc.) in 3 ¼ seconds. Because this kind of

micro-composition incites new questions about ambient or affective dimensions of composing, Rickert argues that it is necessary to develop an understanding of “the mutually conditioning (and not determining) confluence of sound, image, material environment, bodies, and mood” (Rickert). In this passage, Rickert emphasizes the *distributed* non-verbal rhetorical effects of sound and other environs. Rather than describing a rhetorical situation as “agent-initiated,” he explains that rhetorical work is “dispersed among human and non-human elements and modulated through varying forms of semantic and affective media” (Rickert). Like Comstock and Hocks, Rickert points to composition as a practice that can deepen our knowledge of the rhetorical work of sound. However, Rickert pushes this idea further with his all-encompassing definition of composition. He writes,

I have in mind that an understanding of writing within a larger, encompassing environs not only moves us beyond a focus on discourse, but it confronts us with numerous permutations of rhetorical work achieved through *non-verbal and ambient means*. Indeed, it may be useful to reemphasize that *writing is composition, broadly construed*: the synthesis and assemblage of multiple content threads of varying intensities, including *discourses, colors, graphics, musics, sonics, tactiles*, and more, all as gathered within, conditioned by, and expressive of a *material and affective environment*. (my emphasis)

Rickert wants listeners to attend to the entire “assemblage” or network of which sound is a part. Considering all of the material elements and sensory modes that create a sonic event will lead to a better understanding of the effects/affects of sound in situated embodied experiences. Rickert’s attention to how sound works with and against other sensory modes and materials is fundamental to developing multimodal listening and sonic composing practices.

For the last several decades, multimodal composition scholars have been discussing how digital technologies such as audio editing software have changed and enhanced the ways that students can compose with sound. However, with few exceptions, this work has not included substantial considerations of *how to teach listening* in relation to digital technologies. In fact, while listening is often mentioned in multimodal composition scholarship on sound, it is rarely elaborated on or explained *as a practice*. Additionally, because multimodal composition scholarship focuses generally on how to manipulate sound in digital environments, it perpetuates the notion that multimodality is limited to the digital. Treating multimodality as something that is associated exclusively with computer interaction leaves out important considerations of non-digital multimodal experiences with sound and other modes. Thus, I see my project's emphasis on the teaching of listening in relation to composing in both digital and non-digital contexts as contributing to and building on multimodal composition scholarship on sound in significant ways. Cultivating multimodal listening practices can help students become more thoughtful listeners *and* composers in multimodal contexts writ large.

### *Synthesizing Sound and Listening Scholarship in Rhetoric and Composition*

Though there are overlapping ideas in the disciplinary sound and listening scholarship I have discussed, many connections between this scholarship remain unexplored. For example, feminist rhetorical scholarship on listening has not yet engaged fully with work on digital sound technologies and has given little attention to non-linguistic sound. Conversely, multimodal composition scholarship has dealt with digital forms of sonic composition while generally ignoring discussions of listening as a learned practice. And neither of these areas of scholarship has addressed the capacities and limitations of bodies in the kinds of ways that disability studies

scholarship on deafness has done so productively. I want to suggest, then, that synthesizing this work would help to develop the important discussions about listening and sonic composing practices that these areas of scholarship have begun to generate separately. I see my dissertation as an opportunity to bring together these disparate strains of discourse on sound, listening, and deafness via multimodal listening pedagogy.

While my project is indebted to disciplinary scholarship on sound, listening, and deafness, I want to be clear that it also differs from the vast majority of scholarship on these subjects in several significant ways. First, instead of suggesting that the primary goal of listening is to make meaning of language, the multimodal listening pedagogy I am proposing considers bodily encounters with nonlinguistic sound as well. This is not to say that discursive meaning making is unnecessary. Rather, while reflection and interpretation are a salient part of multimodal listening, it is fundamentally an experiential, bodily practice. Second, multimodal listening involves engaging with sound by using multiple sensory modes, and thus, it does not privilege the ears or assume that all listeners must have the ability to hear. By emphasizing the sensory, experiential aspects of sound and listening in this dissertation, I am not suggesting that discourse on listening and embodiment in relation to race, gender, and other identity categories—a common theme in feminist rhetorical scholarship—should be replaced by multimodal listening. Accounting for differences in identity categories should always be a critical part of listening education. Multimodal listening should be practiced *alongside and in addition to* the kinds of embodied listening practices that have already been discussed at length in rhetoric and composition scholarship. Finally, multimodal listening is not limited to digital environments—to computer screens in the multimodal composition classroom. Multimodal listening practices enable listeners to develop a critical attention to any sonic environment.

Indeed, multimodal listening is based on the premise that the entire world can be experienced and understood as a multimodal composition—a place where sound acts as an affective (and sometimes rhetorical) force that works with and against other sensory modes and materials to shape our experiences. Thus, multimodal listening practices can help students learn to make connections between the multimodal education they are getting in composition classrooms and their everyday lives.

Multimodal listening pedagogy extends and expands disciplinary scholarship by providing a way to train students to be more capable and sensitive listeners during the production of multimodal compositions, and in their everyday experiences with sonic texts, products, and environments. This project is pedagogical, then, not only because I offer teaching applications for the composition classroom; it is also pedagogical in the sense that I am proposing listening practices that can help anyone learn to be more thoughtful about their sensory experiences and interactions in everyday life. In a culture where being plugged in to digital devices is a common occurrence, when so much of what we pay attention to is streaming through earbuds or flashing on screens, I am calling for a re-education of our senses—a bodily retraining that can help us learn to become more open to the connections between sensory modes, materials, and environments. In addition to *listening in* to digital content, it is time that we learn to *listen up, out, through, and around*.

*In a certain sense every experience should do something to prepare a person for later experiences of a deeper and more expansive quality. That is the very meaning of growth, continuity, reconstruction of experience.*

-John Dewey

## **2. (Re)Educating the Senses: Multimodal Listening, Bodily Learning, and the Composition of Sonic Experiences**

If asked to identify the body part that is associated with listening, most people would point to their ears without hesitation. Despite the deeply entrenched association between the ears and the act of listening, however, sound is not experienced exclusively through a single sense; various parts of the body can be employed during a sonic encounter. As Steven Connor notes, “It is said that the deaf Beethoven gripped a stick between his teeth to convey the sounds of the piano to him. Similarly, Thomas Edison would chomp on the wood of a gramophone in order to hear faint overtones that, as he claimed in a 1913 interview, were normally lost before they reached the inner ear” (168-169). It is also possible, for instance, to attend to sound that is felt in one’s stomach, throat, and/or legs—a common occurrence at clubs where music is amplified. As these examples suggest, identifying the ear as the body part that enables listening does not capture the whole picture of what is involved in attending to a sonic event. Thus, it is necessary to develop more dynamic, capacious listening practices that account for the multiple sensory modes through which sound is experienced in and with the body. I offer multimodal listening as one way to expand how we think about and practice listening as a situated, full-bodied act.

To distinguish multimodal listening from listening practices that rely on the ears, it might be useful to think of listening to and for audible sound as *ear-ing*. The kind of multimodal listening practices that I am concerned with move away from organ-specific definitions and

instead conceive of listening as a practice that involves attending to all of the sensory, material, and environmental aspects that comprise and shape a sonic event. Unlike ear-centric practices in which listeners' primary goal is to hear and interpret audible sound (often language), multimodal listening practices move beyond the exclusively audible by emphasizing the ecological relationship between sound, bodies, and environments. While I do not deny that the ears are involved in the multimodal listening process (at least for individuals with a working auditory system), I seek to articulate how *the whole body* can be trained to attend to sonic interactions in sensitive and thoughtful ways.

In this chapter I examine multimodal listening as a bodily practice that involves approaching sound as a holistic experience. Experience is a tricky concept to assign as an integral part of multimodal listening—or any practice for that matter—because it seems like a generic term for everything we do. If you are alive, you are experiencing; or to put it another way, you are never *not* experiencing. However, what is significant about the role of experience in cultivating multimodal listening practices is the *quality* of experience. As the epigraph to this chapter reveals, the quality of an experience is essential to facilitating growth and learning in subsequent experiences (Dewey 47 *Experience and Education*). For example, as a music fan, I often listen (with my ears) to the same album on repeat as I am sitting at my laptop. The miniscule computer speakers make the sound a bit flat and tinny, but that does not matter much to me since I am listening mainly for content. At first I attend closely to the lyrics and music, the pace and rhythm of the songs. I think about the meaning of the songs and the way they make me feel, and I sometimes connect them to my own memories. After repeated experiences with these songs, though, I do not find them as stimulating and they tend to fade into the background. Since I am no longer actively learning or growing from each listening, one could say that this particular

listening experience has become habitual, routinized. It has decreased in quality. However, if I buy tickets to see the band play live, the quality of my experience with the album increases. I am jarred from my listening routine by immersing myself in a new listening environment. The club I am in is crowded with moving bodies and we are all participating in the performance. By screaming out lyrics and yelling and clapping, we are shaping the sonic experience as it is unfolding. My senses are bombarded with new sights, smells, and sounds. I can feel vibrations from the massive speakers near the stage. I am engaged fully in this experience, which involves much more than my ears and thoughts. This kind of high quality experience is what John Dewey calls “heightened vitality” or an *esthetic* experience (18 *Art as Experience*).<sup>12</sup> As he writes, “Instead of signifying being shut up within one’s own private feelings and sensations, it signifies active and alert commerce with the world; at its height it signifies complete interpenetration of self and the world of objects and events” (18). When I listen to the album on my laptop again, my listening experience is colored by my experience at the concert. I notice things I did not before—particular lyrics or beats that were emphasized more in the concert than in the recorded version of the album. I am also aware of the limitations of my new listening environment. The recorded version never changes or surprises me. I cannot feel the music as I did at the concert, or participate in the sonic event in the same way. In short, by reinvigorating my senses, the immersive concert experience sharpened my awareness of sound’s possibilities and impossibilities in my subsequent listening experiences with the album.

I want to suggest that multimodal listening practices are a means of achieving these kinds of high quality, educational experiences. Dewey views such experiences “as participative...knowing, doing, feeling, and making sense are inseparable” (McCarthy and

---

<sup>12</sup> Throughout this chapter I will use Dewey’s original spelling of “esthetic,” except in cases where I quote other authors who refer to Dewey’s work and use the alternative spelling, “aesthetic.”

Wright 17). Esthetic experiences are holistic in that they do not separate mind and body or isolate one sense from another; they involve a heightened sensitivity to the experience in its entirety. Similarly, multimodal listening practices involve a full-bodied awareness that heightens listeners' experience of the sensory, material, and environmental aspects of sonic interactions. I am not interested in esthetic experiences for their heightened vitality alone, however. Like Dewey, I am interested in how people might use the newfound awareness and sensitivity associated with esthetic experiences—in what people might learn, do, or make with their experiences of heightened vitality.

Dewey makes explicit links between the learning, doing, and making that emerge from esthetic experiences and creative forms of production. As James Scott Johnston notes, “Dewey often connects aesthetic inquiry to making and doing: art, music, building, designing, and developing” (15). Dewey is concerned with how the heightened sensitivity in esthetic experience can be applied to other areas of one's life. I find it especially significant that he discovers so many connections between esthetic experience and the compositional arts. In what follows, then, I want to extend Dewey's exploration of the relationship between esthetic experience and production to an examination of multimodal listening and composing in a rhetoric and composition context. The aim of this chapter is two fold: 1) to illustrate how through multimodal listening practices we might retrain our bodies and senses to be more aware, alert, and attuned to sonic events in all of their complexity, and 2) to examine how incorporating multimodal listening practices into the composition classroom can enrich students' multimodal composing practices. I argue that the heightened sonic experiences associated with multimodal listening practices can critically and creatively inform how listeners consume and/or compose with sound, and that these practices are particularly useful in the teaching of multimodal composition.

To ground my examination of multimodal listening in embodied experience, I focus on the listening practices of solo percussionist and composer Dame Evelyn Glennie. Glennie is a renowned musician who performs more than one hundred concerts a year worldwide. While she often performs with orchestras, she has worked on collaborative projects with a diverse range of musicians—from DJ Yoda to Bela Fleck. Most recently, she was a featured performer at the Opening Ceremony of the 2012 London Olympics (“Official Website”). Glennie’s experiences provide a valuable model for understanding listening as a multimodal event because they augment the expansive and esthetic nature of sonic experience that most people—particularly people with fully functioning auditory systems—tend to ignore. For Glennie, *ear-ing* is not an option. In fact, she has received as much media attention for her profound deafness as she has for her music.<sup>13</sup> The consistent highlighting of Glennie’s deafness<sup>14</sup> has depicted her as somewhat of an anomaly—as if the bodily listening practices she has developed apply only to her because she does not have a functioning auditory system. Interestingly, in recent years Glennie has become an international spokeswoman for listening, giving lectures, teaching classes, and starring in films on the subject. Even when she assumes the role of an expert listener, however, she is almost always defined by her audiological deficiency. The description of Glennie’s *Ted Talk* on listening as a form of touch, for instance, states that “her hearing loss brought her a deeper understanding of and connection to the music she loves” (“Evelyn Glennie”). Though this statement depicts Glennie’s deafness in a positive way, it still highlights the fact that she is

---

<sup>13</sup> Glennie began to lose her hearing around the age of eight and was profoundly deaf by age twelve (*Good Vibrations* 46, 63). As she writes, “I am not totally deaf, I am profoundly deaf. Profound deafness covers a wide range of symptoms, although it is commonly taken to mean the quality of the sound heard is not sufficient to be able to understand the spoken word from sound alone” (“Hearing Essay”).

<sup>14</sup> My use of “deaf” (with a lower-case “d”) is a strategic choice. The descriptor “Deaf” (with a capital “D”) is almost always employed to refer to the Deaf Community as a cultural and linguistic entity, whereas the term “deaf” refers to an audiological deficiency. Since my focus is on the bodily aspects of listening rather than the social or cultural aspects, I refer to deafness in its physiological sense.

different from people with working ears. It seems to me that the media's obsession with Glennie's deafness has distracted people from her knowledge about listening as a universal communicative act—knowledge that has the potential to teach all kinds of listeners (whatever state their auditory systems may be in) to open their entire bodies to sound. Rather than treating Glennie as a specialized case, then, I want to show that her multimodal listening practices are learned bodily habits that can be reproduced in any hearing, semi-hearing, or deaf individual.

Glennie's multimodal listening practices exemplify a capacious, inclusive form of listening that has the potential to change how people think about and interact with sound. Unlike models of listening that depend on functioning ears, there are no so-called lacks, deficiencies, or disabilities in multimodal listening bodies. There is no hierarchy of listeners when it comes to multimodal listening because it can be practiced by anyone with a body, working ears or not.<sup>15</sup> As I will demonstrate, Glennie's descriptions of her own multimodal listening processes, as well as her documented bodily interactions with sound, can help anybody (and any body) learn to expand and enrich their listening practices and become more critical consumers of sound in their everyday lives. Further, Glennie's full-bodied listening techniques provide an excellent model for teaching multimodal listening practices in relation to composition, and can thus guide instructors in re-imagining the role of listening in the composition classroom.

To illustrate what multimodal listening entails as a practice, I first discuss Glennie's listening training. Her listening education and documented experiences with sound amplify the potential for all listeners to practice listening as a multimodal event. Drawing from Glennie's

---

<sup>15</sup> I do not mean to suggest that deaf multimodal listeners and hearing multimodal listeners can experience sound in the exact same way. Rather, I am pointing out that multimodal listening practices do not privilege one mode of listening (i.e. ear-centric listening) over others. As opposed to ear-centric listening practices that depend on and privilege a singular way of listening, multimodal listening practices encompass a diverse range of sonic experiences and thus recognize that there are multiple ways to interact with and attend to sound.

experiences, I then elaborate on the key role of the body in multimodal listening and explore why reflecting on past bodily experiences with sound is crucially important when training (and retraining) students to listen multimodally. I conclude by proposing some specific ways that multimodal listening can enrich students' multimodal composing practices, thus elucidating why the composition classroom serves as a productive training ground for the teaching of multimodal listening.

### **I. Come on Feel (and See and Touch) the Noise: The Multimodal Listening Practices of Evelyn Glennie**

Evelyn Glennie's listening practices exemplify how touch, sight, and sound can be used during sonic interactions, making explicit the multimodal aspects of listening that most people take for granted. For Glennie, listening is a practice that is grounded in the body—in physical experience. In Thomas Riedelsheimer's documentary *Touch the Sound* (2005), for example, there is a poignant moment when Glennie describes sound in visceral terms. She explains, "You feel it through your body, and sometimes it almost hits you in your face" (*Touch the Sound*). The next scene is a close up shot of Glennie striking a gong with mallets. After reaching a crescendo, she stops making contact with the instrument but continues to stand directly in front of it. By lingering there, she indicates to the viewer that she can still feel the power—the material force—of the sonic vibrations after she has finished playing. As Glennie demonstrates in this scene, and as the synesthetic title of the film insists, interacting with sound can be a form of touch.

The tactile, bodily interaction with sound that is illustrated in this scene is something that Glennie has emphasized repeatedly in interviews and public talks, and *touching sound* seems to

be a crucial aspect of her multimodal listening practices. During my interview with Glennie, she characterized her interactions with powerful sounds as physical encounters:

I mean it's just that I can't describe it exactly, um, because it's much more about a sensation, a living sensation...And you could almost feel it like a wind, in a way, you know where you feel the vibration so strongly that it sort of touches your face like a breeze, you know, like a wind, and it's quite extraordinary because you almost feel as if your hair is actually moving and you're almost being sort of kicked back and forth with the *force* of that sound. (Personal Interview, emphasis in original)

Though listening to sound with one's ears also depends on physical movement—as sound vibrations literally move the tympanic membrane (ear drum) to create rhythmic patterns that the brain can detect—Glennie is instead interested in how sound is experienced by the rest of the body.<sup>16</sup> Her fascination with the physical aspects of sonic interactions is in part rooted in the fact that the “living sensation” of sound is what has made her own listening education possible. Due to her profound deafness, she was taught to attend to how various kinds of sonic vibrations affected her body in different ways. In an essay posted to her website, for instance, Glennie discusses her early listening training. She writes,

---

<sup>16</sup> Though it is not often discussed outside of scientific contexts, sound's capacity to produce physical reactions in bodies has been employed for various purposes. For instance, in *Sonic Warfare*, Steve Goodman explains how sound was used as a means of inducing extreme discomfort in bodies during the Waco siege of 1993: “The FBI engaged in ‘acoustic psycho-correction,’ playing high-volume music blended with sound effects into the compound of the Branch Davidians led by David Koresh with a playlist that was accompanied by bagpipes, screeching seagulls, dying rabbits, sirens, dentist drills, and Buddhist chants” (21). Sound vibrations have also been used for creative purposes. Sound artist Christine Sun Kim, for example, translates the physical force of sound vibrations into artistic movements and images. In a short film by Todd Selby, Kim “played with field recordings of the street sounds of her Chinatown neighborhood, feedback and helium balloons, and made “seismic calligraphy” drawings from ink and powder-drenched quills, nails and cogs dancing across paper to the vibrations of subwoofers beneath” (“Todd Selby x Christine Sun Kim”).

I spent a lot of time in my youth (with the help of my school Percussion teacher Ron Forbes) refining my ability to detect vibrations. I would stand with my hands against the classroom wall while Ron played notes on the timpani (timpani produce a lot of vibrations). Eventually I managed to distinguish the rough pitch of notes by associating where on my body I felt the sound...The low sounds I feel mainly in my legs and feet and high sounds might be particular places on my face, neck and chest. (“Hearing Essay”)

And later, as a young musician, Glennie continued to train her body to listen via the force of vibration. In her autobiography, *Good Vibrations*, she describes “hugging the loudspeakers...sitting with them between my knees, feeling the beat and vibrations of pieces that interested me. Another way of getting in touch with music was to sit with a clattery old portable tape recorder in my lap, one that vibrated as much as possible so I could experience the waves of sound through my body” (159). In this musical context, Glennie’s tactile experiences played a significant role in her listening education. She is not reflecting upon the meaning of sound in these passages. Rather, she is thinking about how the force of sound is working—how it is transforming her body in various ways. Glennie’s listening experiences demonstrate that the initial encounter, the material point of contact, between sound and body is in part what makes multimodal listening a possibility.<sup>17</sup> Glennie’s bodily listening practices provide her with experiential knowledge about how sound works as an affective mode of communication.

---

<sup>17</sup> In arguing that Glennie’s multimodal listening practices can be adopted by everyone, I do not mean to suggest that the experience of feeling vibrations in the body—sonic or otherwise—is a universal experience. Indeed, as the *Senses & Society* special issue on vibration reveals, the experience of vibration evolves and changes in different time periods and cultures. For instance, in this special issue Shelley Trower traces nineteenth century medical literature regarding the sensory experience of railway travel. She notes that many doctors incited fear in travelers about the suspected health risks associated with vibrations from trains. In a very different context, Steven Connor explores the profound religious significance of bodily vibrations and tremors in Quaker communities. The meanings and contexts associated with vibrations influence the ways that people physically experience them and vice versa. For a

In addition to the vibratory, tactile aspects of sound, the visual aspects of sound play a prominent role in Glennie's multimodal listening practices. One of the ways that the film *Touch the Sound* attempts to capture the visual aspects of Glennie's listening practices is by exaggerating her sensory interactions with environments. The camera often positions the audience in Glennie's point of view and magnifies the visual details that surround her body. While the sounds associated with certain images are augmented for viewers with functioning ears, the magnification of visual detail makes it clear that Glennie is experiencing those sounds through her eyes. Some of the most subtle rhythms and movements of the life surrounding Glennie are captured by the lens of the camera, and seemingly, by Glennie herself. For instance, the camera zooms in on the details of rattling suitcase zippers, different kinds of shoes walking on a hard surface, and people bobbing their heads to the music of their iPods. Attending to the rhythm and movement in these visual encounters is a way for Glennie to listen to the sonic environment that she inhabits. It gives her a sense of the soundscape without having to depend on auditory information.

The visual aspects of Glennie's multimodal listening practices figure into her own sonic compositions as well. For instance, Glennie often experiments with the relationship between sound and visible movement in her performances. As she told me in our interview, "if I want to play something quietly, sometimes I move my mallets but I'm not actually touching the instrument. So, the audience feels I'm playing extremely quietly, and they really do believe they're hearing something even though nothing is coming out. It's because they're seeing the movement...that automatically gives them the feeling that sound is there" (Personal Interview).

---

more in depth examination of the cultural history of vibratory experience, also see Trower's *Senses of Vibration*.

By deliberately drawing attention to the movements of her mallets, Glennie tricks her audience into believing that those movements resulted in audible sound. Playing with the audience's perception of sound enables Glennie to give the audience a glimpse into her own visual listening practices. Her anecdote also highlights the strong connection between sound and vision that most people unconsciously rely on when listening.<sup>18</sup> Indeed, when Glennie performs her sonic compositions, the visual aspects of her performance are an important part of the audience's listening experience. The speed or slowness with which Glennie moves her body as she plays, her facial gestures, and the way that she physically handles the instruments all contribute to how sound is being experienced by the audience.

Glennie's listening practices illustrate that multimodal listening entails attending to both the bodily affects of sound and to the multiple sensory modes that can be used to experience a sonic event. Though I have separated the tactile and visual aspects of listening in the above examples in order to emphasize how each sensory mode can be employed during a listening situation, I want to make clear that the visual and tactile aspects of listening do not occur in isolation. On the contrary, sounds, sights, and tactile feelings are often experienced simultaneously during sonic interactions. While Glennie has cultivated multimodal listening techniques in part to compensate for her diminished auditory capacity, attending to the synesthetic convergences that happen during sonic events is a practice that can help anyone cultivate more thoughtful, sensitive listening habits.

---

<sup>18</sup> Another fascinating example that amplifies the powerful relationship between sound and vision is a phenomenon known as the "McGurk Effect." The McGurk Effect is an illusion that occurs when the visual information associated with a particular sound changes the way that sound is experienced ("Is Seeing Believing?"). For instance, a classic example of this effect is illustrated in a BBC documentary that shows a man making an audible "Baa" sound. Despite the fact that he continues to make this sound that begins with the letter "B," when he changes the movement of his mouth to appear as if he is making the sound "Faa," the viewer instead hears the sound "Faa" ("Is Seeing Believing?").

Multimodal listening practices may seem unnecessary for people with functioning ears. If one can hear, then what is the point of using additional sensory modes to attend to sound? The kinds of multimodal listening practices Glennie uses are necessary and purposeful to everyone because, unlike ear-ing, these practices enable listeners to achieve expansive sonic experiences that can lead to rich, meaningful sensory encounters. As McCarthy and Wright note,

In aesthetic experience, the lively integration of means and ends, meaning and movement, involving all our sensory and intellectual faculties is emotionally satisfying and fulfilling. Each act relates meaningfully to the total action and is felt by the experiencer to have a unity or a wholeness that is fulfilling. Not fulfilling in a shallow, self-satisfying sense, but in the sense that in connecting fully with the precariousness of living, in the suffering and undergoing, the expressiveness of experience is revealed to us. Connecting fully produces enduring changes. The world is changed by the outcome on the world of the total action and also by the changes brought about in the experiencer, whose sense of self may be transformed, and whose perspectives and attitudes are likely to have changed. (58-59)

When listeners attend to a sonic event with all of their senses, mundane everyday experiences can be transformed into esthetic experiences. Multimodal listening practices help listeners develop a heightened awareness of sound as an *ecological* event in which they are participating, or what McCarthy and Wright refer to as “a lively integration” (58-59). The value in pursuing esthetic experiences with sound via multimodal listening is the change that occurs in the listener—the reinvigorated sensitivity of their embodied relationship to the sonic world. Indeed, this heightened sensitivity can deepen listeners’ understandings of how sound works and affects in different contexts, thus enhancing their abilities to use sound strategically in their own

composing processes. Below I describe some specific ways that multimodal listening pedagogy can strengthen multimodal composing practices. First, though, it is necessary to examine the kind of bodily training that is an essential part of teaching students to cultivate multimodal listening practices.

## **II. Multimodal Listening Pedagogy: Bodily Learning and Unlearning**

Past experiences with sound have shaped students' listening practices whether they are conscious of it or not, and the accumulation of these experiences have resulted in the formation of listening habits.<sup>19</sup> A crucial aspect of multimodal listening instruction, then, is helping students *unlearn* the ear-centric listening habits they have developed over time. Indeed, unlearning is an indispensable part of the learning process. As Cathy Davidson writes, "Learning is the constant disruption of an old pattern, a breakthrough that substitutes something new for something old. And then the process starts again" (5). Retraining students to listen multimodally involves undoing their habitual sensory habits (i.e. listening only with one's ears) and amplifying the multiple senses that can be employed during sonic interactions. Thus, multimodal listening instruction requires a feedback loop of teaching students to develop new listening habits and helping them unlearn old listening habits that have come to feel "natural" over time.

Understanding how bodies can be taught to unlearn requires some knowledge of how sensory habits are formed in the first place. Though the ways that we engage with the world through our senses may seem like a strictly biological matter, sensory interactions are learned

---

<sup>19</sup> When discussing habits in this chapter, I am referring to the sensory aspects of habit development as opposed to the social or cultural aspects. While social and cultural factors are also vital to the ways that people are conditioned to listen, in this project I am concerned with examining habits that develop out of bodily, sensory experiences. For more information on the social and cultural formation of habits, see Marcel Mauss' "Techniques of the body," and Pierre Bourdieu's extension of Mauss' concept of *habitus* in *The Logic of Practice*.

and refined through experience. As Henri Bergson writes, “our senses require education” (48). Without gaining bodily knowledge of how the senses work in different contexts, life would be utterly chaotic. Every interaction with the world would be unexpected, confusing, and potentially dangerous without prior knowledge—imagine if your body never remembered how it feels to touch a hot stove. Luckily, bodies have a tremendous capacity for memory because they do learn from past sensory interactions. As Bergson states, “bodily memory” is “made up of the sum of the sensori-motor systems organized by habit” (152). Bodily memory is reinforced during every single sensory encounter one experiences. After enough sensory experiences, bodies acquire knowledge about how these encounters affect them, which inform how they will respond to new sensory experiences. In this sense, the very act of living—of being a body interacting with the world—is an ongoing series of educational events.

However, the accumulation or quantity of experiences is not the only factor involved in bodily learning. As Dewey suggests, the *quality* of experiences is an essential factor that can facilitate or stunt growth and learning in subsequent experiences. For example, if a body is persistently assaulted with the same kinds of low quality experiences, its sensory interactions with the world will become blunted. During our interview, Evelyn Glennie expressed concern about the low quality experiences that are associated with sonic excess. Because I found her description so relevant to the topic at hand, I will include a lengthy segment here:

It is just a case of seeing our senses as food. You know, we wouldn't eat 24-7 and expect to be healthy...If we put something in our mouth every single second of the day we would be extremely ill. And yet, we're prepared to do that with sound. We're prepared to feed our system with sound upon sound upon sound upon sound. If we sit on an airplane, we have a huge amount of vibration coming from the engine of an airplane. What do we

do? We try to cancel that out by putting something in our ears, and listening to music or watching a movie or whatever. So that there is more sound. And there are other announcements and distractions on the plane, which is *more* sound. And it just sort of clumps itself up just like that. And you know in a way the jet lag thing, I wonder if it's not so much based on the time differences and all that kind of thing but really just based on the huge overload to our senses that we have, that we feel we have to have. So, you know, it's the same with what we see. It's the same with what we smell, but I think we're much more choosy with how we use our sense of smell. We're slightly more choosy with our sense of taste. But yet with our sense of hearing, and the sound sense, it's making no sense, because it just seems to be on overload. (Personal Interview, emphasis in original)

What Glennie is getting at in this statement is that the accumulation of low quality experiences, or experiences that do not result in learning or growth, can dull one's conscious sensory awareness. Through repetition, these experiences train bodies to become numb—to tune out—and eventually desensitization to particular sonic stimuli becomes the norm. As Glennie points out, most listeners' reaction to overstimulation from the sonic environment is to ignore it by streaming more sound through their ears. Her example highlights how bodily experiences with sound can lead to the formation of specific listening habits. In this case, a bombardment of environmental sound results in the kinds of low quality experiences that encourage ear-centric listening.

Throughout the interview Glennie implied that the best way to unlearn sensory numbness or change the listening habits that have resulted from sonic overstimulation is to expose the body to a range of diverse and contrasting sensory experiences. For instance, she spoke of her own listening training as a kind of restrictive diet: “what I am aware of is making sure that my sort of

daily sound diet, as it were—that there is a huge amount of time where there is no sound. Everything that doesn't exist—but I mean consciously, you know, switching the TV off and just sitting for a few moments with nothing” (Personal Interview). By spending long periods of time in low noise environments, Glennie claims that her body will be more sensitive to sound in other environments. In contrast, another method Glennie employs to heighten her sensory awareness is to experience as many different kinds of sounds as possible. She explained that she makes “a point of trying to get a range of frequencies” in her “sound diet” (Personal Interview). One effective way of doing this is to seek out “organic sounds, sound that can reproduce itself, or sounds that are just observed from the surroundings” as opposed to recorded sound (Personal Interview).

Because Glennie considers one's “sound diet” to be an integral part of cultivating critical listening habits, she expressed disappointment about many listeners' obliviousness to and evasion of “organic sounds.” She explained that “a lot of the younger generation because they've been brought up with technology” tend to be unaware of and/or underexposed to a full range of organic sounds (Personal Interview). In other words, because more and more people are plugged into their iPods, smart phones, and electronic devices, they are consumed by reproduced sounds that have frequencies that vary in the higher register but not much in the lower register. Sound becomes tactile (felt in parts of the body other than the ears) in the lower register (below 20hz), thus exposure to mostly high frequency sounds conditions listeners to depend on their ears.<sup>20</sup> A high frequency sound diet that consists mainly of pre-recorded sound trains people to ignore the

---

<sup>20</sup> As James Cowan writes, “Frequencies below 20 Hz are known as *infrasonic*. These frequencies, although not audible to most people, can be felt as vibrations. This is due to the fact that our internal organs resonate at frequencies between 5 and 15 Hz. Each physical entity has a resonance frequency associated with it, depending on its density. Exposure to sounds near the resonance frequency of a material causes it to vibrate more than it would when exposed to other frequencies” (5).

fuller sensory experience of sound, or how the rest of the body experiences and engages with sound.<sup>21</sup>

The main challenge of multimodal listening instruction, as I see it, is for teachers to design the kinds of productive, *quality* sonic experiences that will continue to build on and expand students' past sonic experiences. For multimodal listening instruction to be effective, teachers need to re-sensitize students who are most likely unaware of their desensitization from repetitive, low quality sonic interactions. As John Dewey writes, "Wholly independent of desire or intent, every experience lives on in further experiences. Hence the central problem of an education based upon experience is to select the kind of present experiences that live fruitfully and creatively in subsequent experiences" (27-28 *Education and Experience*). Teachers of multimodal listening must design experiences that encourage a heightened awareness that will help students learn and grow with every new experience. To help students unlearn the listening practices that they have become accustomed to in their everyday lives, it is necessary to continue to defamiliarize these practices—to make them strange again. One way to shake students from their ingrained listening habits is to take Glennie's advice and infuse students' sound diets with an array of diverse sonic experiences. While it is not possible or necessary to monitor all of the sounds that students consume, teachers can design projects that entail physically inhabiting a range of different sonic environments—parks, churches, museums, outdoor spaces, etc.—instead of just digital ones. Assignments that ask students to compose or listen to sound in a singular

---

<sup>21</sup> It is important to recognize that there are also high frequency sounds in what Glennie refers to as "organic" sonic environments. For instance, many bird sounds are high frequency sounds. It is not that high frequency sounds are bad in and of themselves. Rather, Glennie is calling attention to the need for a range of sounds in listening training because a range of sounds will keep listeners on their toes, so to speak. If one only listens to pre-recorded bird sounds (what Glennie would call "inorganic" sounds) then those sounds would never change or fluctuate. Listening to bird sounds live, however, is more demanding because the sounds are not static. They change depending on the time of day, the spatial location of the birds and the listener, the environmental context, etc.

sonic environment, like the digital audio editing software that most multimodal composition assignments rely on, can actually stunt the growth and development of multimodal listeners. However, returning to a digital environment after having new kinds of multimodal listening experiences can incite a renewed sensory awareness in the digital environment, thus making the possibilities and limitations of sound in those different contexts more apparent.

In a way, then, multimodal listening pedagogy is similar to the defamiliarization strategies that are used in textual composition. For instance, consider Russian formalist notions of poetic devices. As Don Bialostosky writes of Viktor Shkolovsky, who coined the term “defamiliarization,” “He saw poetic devices as counteracting the tendency of our minds to get used to everything, including ways of speaking and writing, and no longer to notice anything—a condition of deadened perception and response that produces dead conventional language” (Bialostosky). In order to defamiliarize, to help reinvigorate readers, poets had to come up with innovative ways to break language conventions, or to use language in an unexpected manner. Bialostosky continues, “poets had to keep finding new ways to make their language strange, to make it unfamiliar and therefore noticeable” (Bialostosky). Just as poets and writers use defamiliarization techniques to heighten readers’ awareness of language, teachers of multimodal listening practices must design opportunities and assignments that give listeners a chance to experience sound in new and surprising ways. The heightened awareness that students gain from multimodal listening practices can help them become more thoughtful and sensitive consumers and composers of sound in both digital and non-digital environments.

### **III. Multimodal Listening and Multimodal Composing**

Cultivating multimodal listening practices can enhance and strengthen students' sonic composing practices. Drawing from Glennie's discussion of listening practices and experiences, below I outline four specific ways that multimodal composition pedagogy can benefit from multimodal listening practices: 1) Multimodal listening practices enable composers to cultivate embodied, experiential knowledge that can help them make strategic decisions about how to employ sound as an affective mode of composition, 2) Multimodal listening practices offer a holistic approach to multimodal composition that enables composers to develop a critical understanding of how sound works with and against other modes in particular contexts, 3) Multimodal listening is an inquiry-based practice that encourages composers to explore and experiment with all of the available effects, affects, and meanings of sound in different environments, which will help them make more thoughtful choices when employing sound in particular composing contexts, and 4) Multimodal listening practices enable composers to approach sonic composition as a means of designing multimodal experiences.

Before elaborating on how multimodal listening practices expand and enrich students' composing practices, I want to briefly consider why it is necessary to supplement the kinds of sound and listening projects that are already common features of many multimodal composition curricula. Podcasts, voiceovers, and audio essays are among the most familiar assignments that deal specifically with sound in the multimodal composition classroom. While I find value in such projects and continue to use versions of them in my own classroom, the listening and sonic composing practices that they require are limiting in a number of ways. For example, composing a podcast usually involves writing a script and recording narrative content—sometimes incorporating music and/or sound effects—using audio editing software. The process of

composing a podcast is quite similar to writing a textual essay. Consider, for instance, the processes of composing with sound that Cynthia Selfe and Gail Hawisher identify in *Multimodal Composition: Resources for Teachers*: “thinking about purpose, audience, and form,” “planning and brainstorming various concepts for an audio essay in a word-processing program,” “trying out different approaches to arranging and organizing audio material in various versions/drafts of essay,” and “peer review of—and response to—drafts” (15). Selfe and Hawisher make specific connections between sonic composing and textual composing in their resource guide. Indeed, highlighting the similarities between sound and text is a common move in multimodal composition scholarship. As Bump Halbritter writes, “In soundful compositions, sound is text” (216).

I agree that it is important to stress the similarities between composing with sound and composing with alphabetic text in order to help students see how the textual composing techniques they are already familiar with relate to other modes as well. However, sound is also a distinct mode with distinct affordances, and it is rarely treated as such in multimodal composition. When the affordances of sound are discussed in scholarship about podcasts and other audio composing genres, sound’s most celebrated affordance tends to be its ability to enhance narrative meaning and content (Halbritter 220). In other words, non-discursive sound is portrayed as distinct from sounded language, but it also seems to serve the same purpose as sounded language: to heighten or convey meaning. By highlighting sound as an exclusively semiotic resource in multimodal composing assignments, students miss out on considering how the embodied and contextual aspects of sonic experience, which play a major role in shaping a sonic composition, figure into the sonic composing process. In short, assignments that emphasize

sound as text end up diminishing the full range of the compositional and rhetorical affordances of sound in a composing context.

However, what I find even more problematic about sound-as-text multimodal composing assignments is that they rarely require students to reflect on their *embodied listening experiences*. The act of listening as a practice is almost never discussed in multimodal composition scholarship on sound. I think that taking listening for granted as something that students just “do” when composing with sound is a dangerous practice. Leaving discussions of listening practices out of sonic composing assignments perpetuates the idea that listening is a natural (as opposed to learned) act, which implies that everybody (every body) can hear the sounds being composed. These kinds of assignments are ear-centric in that they do not account for an embodied listening audience—they do not ask students to consider bodily limitations and capacities. Of course there are exceptions and nuances to multimodal composition assignments on sound, some of which I acknowledged in Chapter 1. Here I have tried to point out some characteristics of common sonic composing assignments. In general, I have come across very few sonic composing assignments that ask students to take their own bodies and senses into account; or to consider the limitations of a composing context; or to reflect on their own listening practices. Alongside assignments that treat sound as text, then, the multimodal composition classroom is in need of multimodal listening practices that can deepen students’ knowledge about the unique ways that sound works as a mode of composition and an affective force. Below I illustrate some of the ways that multimodal listening practices can respond to this need.

*1. Multimodal listening practices enable composers to cultivate embodied, experiential knowledge that can help them make strategic decisions about how to employ sound as an affective mode of composition.*

Multimodal listening practices encourage listeners to meditate on the subtle nuances of bodily interactions with sound in order to experience fully how sound is working on/in/with/through their bodies. As Glennie states, “To listen you have to pay attention. And the body has to in a way slow itself down” (Personal Interview). By slowing the body down, Glennie is referring to becoming attuned to one’s body, or developing a hyper-awareness of one’s embodied interaction with sound. Practicing listening in this holistic way makes it possible to obtain an experiential knowledge of the affective qualities of sound. Unlike ear-centric listening practices that are contingent upon making meaning of sound or its absence, multimodal listening makes it possible for listeners to experience how sound works *in addition to* thinking about what it means. Multimodal listening enables listeners to experience and acutely attend to the bodily affects of sound *and* to the multiple sensory modes (vision, touch, etc.) that are engaged during sonic interactions in ways that exclusively ear-centric listening practices do not.

Attending to how the body figures into sonic interactions via multimodal listening can help composers strategically employ sound as a mode of affective composition. For example, while it is a standard practice for composers to think about how audiences will intellectually and emotionally respond to their compositions, multimodal listening requires composers to consider how their sonic compositions will affect *embodied* audiences. By “embodied,” I am not referring to the representational categories (race, gender, sexual orientation, class, etc.) that have become staples of discussions of embodiment in the humanities and social sciences, but to the fact that an embodied audience is comprised of sensing, nerve-filled, responsive bodies. If composers can

develop a critical awareness of how different sounds affect their own bodies via multimodal listening, they will be more attuned to how sound works as an affective mode, and to how their own sonic compositions might affect audiences.

I am not suggesting that there is a one to one correlation between a particular sound and a particular bodily affect. A sound does not necessarily affect all bodies in the same way every time (or at all), and not all bodies experience sound similarly either. However, the point of attending to how sound affects one's own body in a compositional context is not to create a formula for controlling how sound will affect other bodies. Rather, it is the experiencing and acknowledging of bodily variations in sonic interactions that is important. In order to treat sound as a complex, dynamic mode of composition, it is necessary to teach students how the affects of sound may vary from person to person, context to context. Multimodal listening practices do a brilliant job of highlighting the fact that bodies are not uniform—that the audiences students compose for have different bodily capacities and needs that will affect how they respond to sound. Though it is not possible to know exactly how a sound will affect other bodies, experiencing and experimenting with a range of sounds and their affective possibilities can help composers address questions such as: What kind of sound would be most persuasive—most effective *and* affective—given the embodied audience I am composing for? How are the technologies I am using to compose with enabling or preventing me from manipulating sound to achieve these desired effects/affects? How will the context I am composing in affect the sounds I am working with and/or the embodied audience's response to those sounds? What kinds of embodied listeners would be affected or unaffected by this sound?

As McCarthy and Wright note, “it is only by seeing technology as participating in felt experience that we can understand the fullness of its potential” (x). By attending to their bodily

experiences with sound in digital composing environments, composers can develop a sharper sense of the affordances of sound as a compositional medium. Additionally, multimodal listening practices can expand the ways that sensing bodies are figured into the composing process. The awareness of sensing bodies that multimodal listening encourages provides an opportunity for composers to design sonic compositions that can be interacted with and experienced in multiple ways instead of only through the ears—perhaps by adding textual or visual elements that enable deaf or hard-of-hearing audiences to engage sound via different modes. I see multimodal listening practices as a way of challenging composers to come up with creative and inventive strategies for developing sonic compositions that offer more expansive and inclusive embodied experiences.

*2. Multimodal listening practices offer a holistic approach to multimodal composition that enables composers to develop a critical understanding of how sound works with and against other modes in particular contexts.*

Throughout *Touch the Sound*, Glennie demonstrates that multimodal listening practices require the body to be as open as possible—to become one with the environment. As she states, “I want to be open to absolutely everything that comes my way” (*Touch the Sound*). This kind of openness requires an acute attention to the ecological relationship between sound, body, and environment. Developing an awareness of this relationship via multimodal listening practices can expand and deepen sonic composing practices in ways that are not possible using exclusively ear-centric listening practices. While ear-centric listening practices often focus narrowly on the meaning and interpretation of audible words, multimodal listening practices take into account the dynamics of the sonic composition as a whole. This holistic approach to sonic composition

amplifies the affordances and limitations of sound and gives composers a better sense of how sound works with and against other elements in a multimodal composition (images, video, text), as well how all of those elements and the composing environment in general will affect the overall experience of the audience.

In order to grasp the ecological relationship between sound, bodies, and the environment, multimodal listeners must learn to attend to sound in a range of diverse contexts. If sonic composing and listening practices are limited to the screen of a digital audio editor (or any one context), then listener-composers are not experiencing a full enough range of sonic environments to get a sense of how different materials and contexts shape sonic experience. Isolating multimodal listening and composing practices to a singular sonic environment not only gives students limited knowledge about the affordances of sonic contexts, it sets up a disconnection between sonic interactions in composing environments and sonic interactions in students' lives outside of the classroom. I would argue, then, that multimodal listening practices are a way to recover, to borrow from John Dewey in *Art and Experience*, "the continuity of esthetic experience with normal processes of living" (9). A multimodal listening pedagogy involves creating opportunities for students to attend to how sound is working in everyday environments in addition to digital composing environments, thus helping students to see how their multimodal listening and sonic composing practices are related to their sonic interactions with the world, to their "practice of living" (Dewey 9). The ecological aspects of sonic encounters that are made apparent through multimodal listening practices provide a bridge between multimodal experiences with sound inside and outside of the classroom, thus making listening instruction a way for students to better understand the sonic texts they create and interact with in the classroom and the sonic spaces they move through everyday.

*3. Multimodal listening is an inquiry-based practice that encourages composers to explore and experiment with all of the available effects, affects, and meanings of sound in different environments, which will help them make more thoughtful choices when employing sound in particular composing contexts.*

On numerous occasions, Glennie has described her listening practices as an inquiry into the journey of sound. As she stated in our interview, she is not “hostage to a system or technique” for listening. Rather, she says, “It’s more like a discovery, and, you know, what may work for me may not necessarily work for someone else. But it’s just kind of opening up the possibilities and asking the questions yourself in regard to what and how you actually perceive of something” (Personal Interview). This idea of “opening up the possibilities” or exploring the potential of different sounds and their affects is an important aspect of multimodal listening that can enrich composing practices. Multimodal listening practices require composers to approach sound not as static and stable, but as a highly contextual experience that changes from one setting to the next. Thus, practicing multimodal listening as a mode of inquiry will encourage students to consider the ever-changing possibilities and limitations of sound in different contexts rather than asking them to come to hasty conclusions about what a sound means or represents. Developing an awareness of the contextual nature of sound, then, encourages composers to be more playful and experimental by designing sonic compositions for specific contexts. For example, instead of asking students to design a sonic composition that will be posted on a blog or website, one could develop more location-specific assignments. Students might be asked to design a single sonic composition that is intended to be played/performed in two different places. Comparing the two performances would make the significance of the contextual, ecological aspects of the sonic composition more apparent.

It is useful to think of the central role of inquiry in multimodal listening practices as an extension of arguments in composition studies that privilege inquiry over linear arguments (i.e. the five-paragraph essay's limiting and predictable format hinders inquiry-based writing that might lead to new insights and possibilities). For example, inquiry-based writing is one of the main goals in the composition program at the University of Pittsburgh. As a way to push students away from the five-paragraph essay model, composition instructors at Pitt ask students to "Engage in writing as a creative, disciplined form of critical inquiry" ("Seminar in Composition Staff Syllabus"). Instead of having students back up each of their points in a tidy, linear way, they are encouraged to explore various angles and possibilities in their stories and arguments. I want to suggest that listening instruction in composition studies should be treated in a similar fashion. Instead of asking students to seek specific sounds to achieve specific affects (a kind of five-paragraph model of listening), multimodal listening practices can be used to encourage students to explore a range of sounds and their effects by physically experiencing sound in different spaces and environments, digital and non-digital. By discovering and experimenting with a sound's various affordances before making decisions about how they will ultimately use it in their compositions, students will have a better sense of the available sonic possibilities in a specific context.

My emphasis on the body, or embodied experience, as a mode of inquiry in multimodal listening practices does not make this kind of training any less intellectual than teaching students listening practices that focus on the meaning of sound or alphabetic language. To avoid perpetuating a mind/body dichotomy, it is important to understand that multimodal listening is what Debra Hawhee refers to as "a mind-body complex" (10). In her account of the linked practices of rhetoric and athletics in ancient Greece, Debra Hawhee writes,

When viewed in terms of education, rhetoric's relation to athletics hinges on a kind of knowledge production that occurs on the level of the body, displacing the mind or consciousness as the primary locus of learning... This is not to say that 'mind' or thought, is not important, but rather that it is part of a complex—a mind-body complex—that learns and moves in response to a situation rather than through the application of abstract principles. (10)

While Hawhee discusses the role of the body in relation to ancient rhetorical practices, her comments about bodily pedagogies apply to the kind of multimodal listening training that I have been describing. Unlike ear-centric listening practices that often depend on the interpretation of abstract knowledge (words, ideas, etc.), the cultivation of multimodal listening practices “hinges on a kind of knowledge production that occurs on the level of the body” (10). Multimodal listening requires undoing ear-centric habits and developing a holistic approach to sonic encounters through situated, embodied experience.

The bodily pedagogy that Hawhee describes is also relevant to understanding multimodal listening as an inquiry-based practice in that it does not have a fixed aim or goal. She writes, “the ‘end result’ of such pedagogy is not a finished product, but a dispositional capacity for iteration—the ability to continually repeat, transform, and respond” (151). Like the sophistic pedagogy Hawhee discusses, multimodal listening training is not based on a set formula or universal goal. Rather, through repetitive practice students of multimodal listening learn to attend to the bodily and contextual aspects of sonic encounters. Eventually, they will be able to translate that acute attention to bodily interactions with sound in a range of environments and situations. In other words, the multimodal listening habits that students cultivate are meant to provide a foundation for helping them respond to, explore, and compose in different kinds of sonic

environments. Multimodal listening education is not a practice that requires mastering a particular corpus of knowledge; it is an ongoing, experiential, inquiry-based practice.

*4. Multimodal listening practices enable composers to approach sonic composition as a means of designing multimodal experiences.*

Multimodal listening practices encourage composers to attend to how sonic compositions work to create holistic experiences. As Graham Pullin writes, “the best way to design the experience is to experience the design” (139). Because multimodal listeners attend to the entirety of a sonic encounter—including the sonic encounters that they have with their own compositions—they are first testing out the experience on themselves. By attending to embodied experience, context, and how sound is working with or against other modes during their composing process, composers can make more informed decisions about how to ultimately design their sonic compositions as holistic experiences.

Learning to design holistic multimodal experiences is important because designing immersive experiences is a fundamental aspect of twenty-first century composition (in the broadest sense of the word). One of the primary goals for designers of everything from baseball stadiums to museums to video games to electric toothbrushes is to create pleasurable embodied experiences; designers have to think through the overall experience of a product or activity or environment—its look, feel, taste, touch, smell. Immersive experiences are highly esthetic, as Dewey might put it, and they tend to be more meaningful and memorable than low quality experiences. Thus, the idea is that consumers will want to repeat the experience again and again. In this sense, teaching students to design holistic experiences via multimodal listening practices

can help them create more effective and engaging sonic compositions, as well as deepen their understanding of sound as an integral part of multimodal experience in compositions writ large.

As I stated earlier, digital composing environments have limitations in terms of creating immersive sonic experiences. I see these limitations as an opportunity for teachers of multimodal composition to invite students to compose and/or perform their sonic compositions outside of digital contexts. For example, if a student wants to use reverberance to create a rhetorical effect, I might encourage her to perform her sonic composition live in a space that makes that possible (a large church or auditorium, for instance), thus taking full advantage of the visual and spatial elements that can shape the experience of sound in a way that would not be possible in a digital sound environment. Similarly, if a student wants to draw attention to the ways that sonic experiences are affected by other sensory modes, he might design a playful, interactive multimodal composition/experience. For instance, he could create an exploratory, interactive composition by having audiences watch a movie with a powerful soundtrack while eating specific kinds of foods. Though eating is something that movie watchers do all of the time without much thought, this composition might require audiences to stop and think about their overall *embodied* experience at particular points in the film (what might audiences discover about their own listening/watching habits by being prompted to pay attention to the sensory experience of eating a candy bar while being immersed in the sights and sounds of a violent film?). There are many possibilities for more experimental sonic composing experiences in the multimodal classroom—some of which I discuss at length in later chapters.

Though my primary focus in this project is on how a multimodal listening pedagogy can enhance multimodal composing practices, the holistic approach to composing that multimodal listening practices encourage can be used to teach students to engage with and produce textual

writing as well. Indeed, multimodal listening practices could be used to call attention to a significant and often overlooked link between multimodal composition and textual composition: both kinds of composition involve designing experiences. As David Kaufer and Brian Butler note,

In our cultural environment of increasingly visual and sensory-activated media, linear text has come, at a comparable increasing rate, to be devalued as a favored communication medium of professionals. Writing too often gets classified solely as the filler content or copy for worlds that the new media deliver. Writers are thought not to produce worlds, but only the post-visual annotations on a world delivered in media other than texts... We seem in our professional and work cultures, if not our literary and leisure ones, to have forgotten the fundamental visual-sensory powers of words, activating worlds through mental imagery. (8-9)

Kaufer and Butler suggest that textual writing is a form of experience design, and like digital media, words can produce immersive experiences. It is important to point out that Kaufer and Butler's discussion differs from mine in that they examine words as a *representational* medium and my project examines sound as *lived experience*. In this sense, the immersive experiences Kaufer and Butler describe are more abstract or virtual, while the ones I describe are more physical and sensory. However, I would argue that it is also possible to take a physical, sensory approach to textual writing when designing immersive experiences for readers. Just as sound works with and against other modes in a given context to produce particular effects and affects in a listening experience, words are part of a larger holistic reading experience. For example, the style and size of the font, the spacing between words, the color and texture of the paper or screen (or whatever material the words are printed on), the feel of the text in one's hands, and the

context/environment in which the text is experienced (a living room, a restaurant, etc.) all contribute to the reader's holistic experience of that text. Sounding text—in one's head or by reading it aloud—can also make for an immersive reading experience. Text can become a lived, or enlivened experience by (sometimes literally) breathing life into words by sounding them out. Of course, not all words or sounded performances of words will automatically pull readers into immersive experiences. However, if we can teach students to attend to the sensory, material, and contextual aspects of alphabetic texts, they can use that experiential knowledge to compose more engaging, immersive experiences for readers. In this sense, the features of multimodal listening practices might be used to develop *multimodal reading* practices that would enable composers to take a more expansive approach to textual writing. Though such textual practices are beyond the scope of this project, this example highlights how multimodal listening practices could inform communicative practices beyond sonic composition.

My hope is that multimodal listening pedagogies will lead to new, more experimental approaches to the teaching of listening and sonic composing in a rhetoric and composition context. As I have tried to illustrate in this chapter, it is more productive to think of listening in terms of sensory possibilities than in terms of organ-specific binaries (i.e. you either have the capacity to listen or you do not). The fact that bodies can be retrained to experience listening via multiple modes—that listening is an adaptable, dynamic practice that can be learned and unlearned—presents composition instructors with an exciting opportunity to explore how a wider range of listening practices and sonic experiences might inform composition pedagogies. Multimodal listening practices can supplement listening practices that focus on the meaning and interpretation of words by providing a way for students to experience and reflect on what it means to be an *embodied* listener, composer, thinker, and learner. Alongside teaching listening

as an ear-centric, meaning-centric practice in composition, then, multimodal listening practices can help students develop listening and composing practices that will make them more critical consumers and producers of sound in the multimodal composition classroom and in their everyday lives. While this chapter has provided the general framework for a multimodal listening pedagogy, the chapters that follow address more specifically how multimodal listening can inform multimodal composition in fresh and novel ways.

*If we had a keen vision and feeling of all ordinary human life, it would be like hearing the grass grow and the squirrel's heart beat, and we should die of that roar which lies on the other side of silence. As it is, the quickest of us walk about well wadded with stupidity.*

-George Eliot

### **3. Sounding Space, Designing Experience: Multimodal Listening, Soundscapes, and the Ecological Practice of Sonic Composition**

The Cathedral of Learning is an iconic forty-two story building that juts out of the University of Pittsburgh's main campus. The multiple first floor entrances of the Cathedral lead into a massive space—three stories high, one hundred feet wide, and two hundred feet long—known as the Commons Room (Toker 327). The Commons Room features ornate Gothic architecture, including arches with ribbed vaulting, stone shafts, and decorative statues. Wooden tables and benches are scattered throughout the room, making it a popular study area for students despite the fact that it is heavily trafficked by people passing through the Cathedral everyday. I am always struck by how quiet the Commons Room is even when it is full of activity. When sounds of muted footsteps or murmuring voices become audible, they seem to float through the air almost unnoticed. The room sounds more like a church than a bustling university space.

When I was reading in the Commons Room one day, I noticed the immediate change in behavior as people transitioned from the outside to the inside of the building. Through the turnstile doors, I saw several groups of students having animated conversations—gesturing and speaking loudly enough for me to hear muffled versions of what they were saying. As they walked into the Commons Room, though, the volume of their voices diminished and they became more subdued. Perhaps the room's scale and elaborate ornamentation encourages

inhabitants to act as if they were entering a sacred building (it is named the *Cathedral of Learning*, after all). Even when a sudden burst of laughter or the thud of a dropped book disrupted the room's unspoken code of conduct, the sound bounced off of the high ceiling, reverberated briefly, and got swallowed up by the massive space without much notice.

It turns out that the Commons Room's aesthetic features were designed to promote the silent reverence I had been observing. John Bowman, the University Chancellor who oversaw the building of the Cathedral, wanted the church-like space to incite respect and admiration for higher learning in its visitors. The Cathedral was considered to be a manifestation of the colossal importance of education in the region (Toker 327). However, the awe-inspiring aesthetics are not the only reason for the Commons Room's near soundlessness. Toker notes, "The Commons Room is always quiet despite its use by thousands of students every day, because the 'stones' between the ribs are actually Guastavino acoustical tiles" (327). Acoustical tiles (Guastavino is the brand name) are made with sound absorbing materials like mineral fiber pulp and fiberglass, which reduce noise and prevent excessive reverberation. Sound gets soaked up by the architecture before it has the chance to produce any significant effects. Both the aesthetic and architectural features of the Commons Room play a role in composing its sonic environment, and its sonic environment seems to influence the ways in which people listen to, interact with, and move through space.

I begin with a meditation on the sonic space of the Commons Room to accentuate sound as part of a larger sensory, material, and spatial ecology. While the last chapter emphasized the role of embodied experience in multimodal listening practices, this chapter amplifies multimodal listening as an ecological practice that involves attending to the relationship between sounds, bodies, and environments. I argue that training listeners to become acutely attuned to how sound

works in sonic environments will heighten their sensitivity to the functions, affects/effects, constraints, and possibilities of sound in a variety of settings. In turn, this heightened sensitivity can lead to more informed and thoughtful decisions about how to compose with sound in particular contexts, and to a richer understanding of how sound works as an affective, often rhetorical force in everyday spaces and environments.

In bringing discussions of sound and the environment to a rhetoric and composition context, my examination extends and expands interdisciplinary “soundscape studies.” The term “soundscape,” coined by Canadian scholar and composer R. Murray Schafer,<sup>22</sup> refers to any acoustic environment—from cities to cornfields to houses. Schafer’s work on soundscapes is relevant to my discussion of multimodal listening practices in rhetoric and composition because it underscores the relationship between embodied listening experiences and the production of sound. Schafer considers the ecological relationship between sound, bodies, and environments to be a vital aspect in the process of *composing* soundscapes. In *The Soundscape*, for instance, he suggests that the artful design and manipulation of sonic environments requires knowledge of acoustic ecology, or “the study of sounds in relationship to life and society” (205). According to Schafer, sonic composing practices must account for how humans experience, interact with, and contribute to the soundscapes that they inhabit.

---

<sup>22</sup> In the late 1960s, Schafer formed a research group at Simon Fraser University called the “World Soundscape Project” (WSP) that initiated many of the first large-scale soundscape experiments. The initial work of the WSP focused on the negative impact of noise pollution on the rapidly changing environment in Vancouver during the early 1970s. The WSP’s research resulted in several publications that led to the creation of Canadian noise bylaws (“The World Soundscape Project”). However, in his 1973 essay “The Music of the Environment,” Schafer decided to concentrate on how to create more positive soundscapes as opposed to focusing exclusively on the elimination of unappealing or harmful sonic environments (“The World Soundscape Project”). This change in approach has had a profound impact on soundscape studies as it is understood today.

While Schafer's scholarship provides a strong foundation for understanding the ecological aspects of soundscapes, I find Emily Thompson's more material approach to soundscapes to be an essential supplement to Schafer's conception. In *The Soundscape of Modernity*, Thompson writes, "The physical aspects of a soundscape consist not only of the sounds themselves, the waves of acoustical energy permeating the atmosphere in which people live, but also the material objects that create, and sometimes destroy those sounds" (2). Whereas Schafer discusses soundscapes and their effects in rather broad terms (i.e. via general categories like "The Natural Soundscape," and "The Industrial Revolution"), Thompson is very precise in identifying how the specific material features of environments, such as the kind of tile or brick used to construct buildings, can influence soundscapes and the experiences of their inhabitants. In combining Schafer and Thompson's ideas about soundscapes, my use of the term "soundscape" (or "sonic environment") in this chapter refers to the entire ecological network of sounds, bodies, and sensory/spatial/material features that make up an environment.

In a multimodal composing context, heightening students' awareness of sound as a part of a larger ecology is a critical step toward helping them develop a more dynamic understanding of the functions, effects/affects, possibilities, and constraints of sound in various contexts, thus enriching and expanding their listening and sonic composing practices. Cultivating a sensitivity to the ecological aspects of sound will require defamiliarizing the digital sonic environments that students have become accustomed to interacting with in multimodal composition courses. Rather than limiting their sonic interactions to digital spaces, teachers of multimodal composition need to give students opportunities to attend to sound in a wider range of diverse soundscapes. In other words, it is necessary to incorporate listening and sonic composing assignments that ask students to thoughtfully attend to sound in both digital *and* non-digital spaces. As Geoff Sirc

writes, “The spaces of our classrooms should offer compelling environments in which to inhabit situations of writing instruction, helping intensify the consciousness in the people who use them” (1-2 *English Composition*). Offering such “compelling environments” means extending the space of the classroom to include the world at large. Following Sirc, Jody Shipka argues that it is essential for teachers of rhetoric and composition to search for new scenes of composition pedagogy—“to recognize that the classroom is just one of many spaces through which they [students] move, learn, act, communicate, and compose” (36 *Toward*). I see turning to non-digital soundscapes as new (sonic) “scenes” in rhetoric and composition studies as one way of implementing the capacious, beyond-the-classroom multimodal pedagogies that Shipka and Sirc encourage.

While it is necessary to incorporate a broad swath of non-digital sonic environments into multimodal composition, it is also crucial to teach students to approach digital spaces as soundscapes. Just as the high ceilings and Gustavino tiles contribute to the soundscape and experiences of listeners in the Commons Room, the material and spatial features of a digital environment (i.e. the size of computer speakers, volume control and capacities, two-dimensional space, visual layout, etc.) contribute to shaping a user’s listening experience. Listening experiences in both digital and non-digital environments are similarly shaped by a material, spatial, and sensory network. Yet, there is a noticeable dearth of scholarship on digital spaces in soundscape studies. By highlighting multimodal listening practices and experiences in a mix of digital and non-digital soundscapes, then, this chapter expands discussions about listening and sonic production in rhetoric and composition studies and contributes to a largely ignored area in interdisciplinary soundscape studies. As I will illustrate, cultivating multimodal listening

practices in both digital and non-digital soundscapes can sharpen one's knowledge about how sound works and affects.

In the first section of this chapter, I examine the intricate relationship between sound, bodies, and environments through the field of acoustic design—the professional practice of creating and enhancing soundscapes. Acoustic designers' multimodal listening and sonic composing practices involve attending to the entire network of sensory, spatial, and material elements associated with a sonic environment. I suggest possibilities for how acoustic designers' ecological approach to sound could enhance listening and sonic composing practices in multimodal composition. Next, I explore how adopting the multimodal listening practices of acoustic designers can help listeners develop a critical understanding of how sound works as an affective and often rhetorical force in various kinds of familiar sonic environments, thus raising their awareness of how sound is being used strategically in everyday spaces. In the final section, I describe one possible approach for incorporating non-digital soundscapes into the multimodal composition classroom via a discussion of the “Sounding Pittsburgh” project—an assignment that required my students to compose a collaborative digital sound map of Pittsburgh. This project exemplifies how comparing and contrasting multimodal listening experiences in digital and non-digital environments can heighten students' awareness of the functions, affects/effects, constraints, and possibilities of sound in different contexts.

## **I. An Ecological Approach: The Multimodal Listening and Sonic Composing Practices of Acoustic Designers**

Acoustic designers are sound professionals that are hired to create or enhance sonic environments for a variety of places and spaces, from parks to office buildings to churches.<sup>23</sup> Acoustic design is most often depicted as a job that entails the use of complex math and physics to eradicate acoustic problems (i.e. how to prevent unwanted noise in a space). *Active Noise Control: Fundamentals for Acoustic Design* (Rosenhouse) and *Applied Acoustics: Concepts, Absorbers, and Silencers for Acoustical Comfort and Noise Control* (Fuchs) represent a few examples of the enormous body of dense, jargon-heavy acoustic design texts that are based on the science of noise reduction. For general readers who lack specialized knowledge of acoustic design, however, these kinds of texts do not provide much information about the everyday practices of acoustic designers. To get a fuller sense of what acoustic design involves as a practice, I conducted several in-depth interviews with experienced acoustic designers.

Though acoustic design is often conceived of as a technical practice, in this section I explore acoustic design as a creative mode of sonic composition that has the potential to enhance approaches to listening and composing practices in multimodal composition. As my interviews with acoustic designers reveal, acoustic design is not simply the elimination or suppression of sound, but rather an inventive, process-based form of composition.<sup>24</sup> For example, Greg, an

---

<sup>23</sup> Designing acoustic environments has been a practice at least since the establishment of architectural studies. The ancient Roman architect Vitruvius is often cited as the first “acoustic designer.” As Emily Thompson notes, “In what is considered to be the oldest extant architectural treatise in the Western tradition, the Roman architect Vitruvius articulated ideas about how to control sound in theaters” (18).

<sup>24</sup> General impressions of acoustic design are similar to general impressions of writing. For example, when someone finds out that I teach writing, she often responds by saying “Oh, I’m terrible at grammar.” This kind of statement has become cliché to rhetoric and composition scholars who are tuned in to the fact that writing is much more complex than “fixing” grammar. What I have learned from interviewing

acoustical consultant and designer for a major American firm, states that “acoustical enhancement” is one of the most enjoyable and challenging parts of his job. He explains, “Acoustical enhancement is more interesting and creative [than noise reduction]. It involves changing the shape, finishes, and construction of a space to achieve a specific acoustical environment” (Personal Interview). The creative compositional practices that acoustic designers employ in their work makes acoustic design an especially ideal area to explore in relation to rhetoric and composition. The aim of the following discussion is to establish some productive connections between acoustic design practices and multimodal composing practices. My hope is that acoustic designers’ ecological approach to sound can be used as a generative heuristic for developing more expansive and dynamic considerations of sound in multimodal composition.

Attending to sound as part of a larger spatial and material ecology is a fundamental practice in acoustic design work. Music halls, for instance, require a material structure that enables the production of sonic qualities such as musical clarity, warmth, reverberance, and intimacy. To arrive at such qualities, acoustic designers must attend to how various materials and aesthetic features in the physical environment of the music hall affect the ways that sound is experienced by a listening audience. For example, due to their sound absorbing qualities (or lack thereof), the kinds of materials used to construct an environment have a major influence on what that environment sounds like. Adding wood paneling to a music hall would create a very different sound than concrete walls; incorporating carpet into the design of the music hall would affect the soundscape much differently than laying down marble floor. Changing or manipulating the material and aesthetic features of a room is inextricably linked to the soundscape of that room. The height of the ceilings and shape of the space (i.e. rectangular, rounded, etc.) can also

---

acoustic designers is that just as writing involves more than the eradication of error, acoustic design requires more than the elimination of unwanted noise. It is a complex and creative practice.

have significant effects on the sound. As Cavanaugh, Tocci, and Wilkes note, buildings with high ceilings “are useful in assuming adequate reverberation in high volume concert halls” (147).<sup>25</sup> The shape of the ceiling and walls affects the way that sound bounces or reflects off of those features, which changes how the sound is experienced in a space. Environmental features play a crucial role in composing or manipulating sound for a space. As opposed to focusing on sound in isolation, acoustic designers treat sound as an element that is connected to and influenced by a larger material and spatial network.

Cultivating an acute attention to the spatial and material environment that shapes sound would help students approach their sonic compositions as holistic experiences that are dependent upon more than sound alone. Unlike the common sound-as-text approach to multimodal composing I discussed in the last chapter, learning to listen and compose like acoustic designers would require students to attend to the larger environment of which sound is a part. In a non-digital setting, students might compose place-specific sonic compositions that take advantage of the material and aesthetic qualities of a room to achieve specific kinds of sonic effects. To create a sonic effect that produces feelings of isolation, for instance, a student could present a sonic composition in a large space with a high ceiling that would sonically draw attention to the vastness or emptiness of the environment. Understanding sound as part of a larger environment is important for sonic composing practices in digital spaces as well. For example, a student who is creating sound for a website that is intended to be experienced as a warm and intimate digital space (like a music hall) would need to consider how the sound could be effectively integrated

---

<sup>25</sup> Reverberation, according to Christopher Brooks, is defined as “the persistence of sound in the room after the source has ceased” (7). Reverberation is not the same as an echo, however. An echo occurs “when you can hear distinct sound reflections coming back to you: ‘Hello...Hello...hello...lo...lo...lo.’” (21). Reverberation, on the other hand, “occurs when sound in a room continues reflecting off the boundaries of a room. The original sound and the repeated reflections blend together into a single, longer sound” (21).

with other aesthetic elements of the website (color palette, visual layout, etc.) to create a feeling of warmth and intimacy. Even if the sound has an inviting effect, if the colors do not convey the same kind of warmth then the composer's overall design—including the sound—will be less potent. Though the quality of the sound is not affected by manipulating the aesthetic features in digital environments like it is in three-dimensional spaces, teaching students to treat sound as an element that is connected to and shaped by its environment can help them create more integrated, holistic sonic experiences.

Experimentation is another important aspect of acoustic designers' multimodal listening and composing practices. Trial and error is vital to acoustic design work. As Greg put it, "It's an iterative process" (Personal Interview). In order to compose sound for spaces in need of acoustical enhancement, acoustic designers experiment with manipulating the material environment until the desired effects are achieved. Like other forms of sonic composition (creating music, audio editing, etc.), acoustic design requires a repetitive cycle of composing, listening, revising, relistening, recomposing, and so on. For example, James Cowan describes the experimentation that was necessary in the acoustic transformation of a neoclassical courthouse in New Jersey. The courthouse's domed ceilings, spaciousness, and curved surfaces were causing excessive reverberation, making it difficult to understand what people were saying when court was in session. Cowan explains, "The management wanted the historic look of the courthouse to be preserved, but the acoustics of the facility had to be improved for speech intelligibility" (59). To preserve the aesthetics, acoustic designers had to manipulate the existing architecture without making any drastic visual changes. The compositional process required manipulating an aspect of the material construction (i.e. the texture, surface, and/or shape of the material features in the environment), listening to how that material change affected the sound, changing it again,

listening again, etc. This process continued until the desired sonic effects were accomplished. The experiment that worked best involved applying “a spray-on mineral-based absorptive material” on the domed ceiling to soak up the majority of the sound “with the result of lowering the reverberation time to an acceptable level (59). In this successful example, the experimentation process ended with a solution that enhanced the soundscape of the courthouse without changing its aesthetics.

The experimentation that is integral to acoustic designers’ listening and composing practices also needs to be emphasized as a critical component of multimodal composing practices. Encouraging students to experiment with sounds helps them develop a better sense of all of the available sonic possibilities in a specific context. For instance, rather than downloading a generic “scream” sound effect and inserting it into a podcast, a student might record herself screaming in various (non-digital) locations in order to find the one that seems most appropriate and effective. The scream would obviously sound different when transferred to a digital environment, but the student could continue to experiment with digital tools in an audio editor to manipulate and enhance the sound even more. Rather than simply using the first sound file they can find and inserting it into a sonic composition without much thought, experimenting with a sound’s various iterations and effects in different contexts will enable students to explore a fuller range of possibilities before deciding how they will ultimately use it in their compositions.

Attending to the embodied experiences and needs of the future inhabitants of a space plays a central role in the multimodal listening and composing practices of acoustic designers. As David, a senior research associate and professor of acoustics explained, the inhabitants of the space one is designing for have a direct effect on the acoustic, and therefore aesthetic and functional, choices that need to be made (Personal Interview). For instance, when David was

hired to create a peaceful sonic environment in a hospital, he encountered a lot of design constraints that were linked to the health needs and concerns of patients. For sanitary reasons he could not change any of the hard surfaces in the hospital (“porous surfaces cannot be kept clean and free of dust, mold”), which made it “difficult to quiet down” the space (Personal Interview). Because David did not have much leeway in terms of changing the aesthetics and materials of the environment, he amplified the noise of the ventilation system “to make a significant ‘hiss’ sound to cover up the noise of private conversations, worker movements, and noise that disrupts sleep” (Personal Interview). By strategically enhancing and blending the hissing sound of the ventilator system with other kinds of potentially annoying or disruptive sounds, David was able to change the sonic experience of the hospital. The excess noise provided a more private atmosphere so that patients could confidentially discuss sensitive issues with their families and doctors, and the steady hissing (similar to the “shhhhhhh” sound people make to quiet others) of the ventilation system also served as a way to help calm and lull patients that needed to rest. David had to listen with the communicative needs and bodily experiences of other people in mind to create the desired sonic environment. His multimodal listening practices in this case involved attending to his own embodied experience of sound in the space (how the sounds made his body feel) and imagining the embodied experiences and needs of that space’s future inhabitants.

Attending to the embodied experiences and needs of inhabitants often requires acoustic designers to compose adjustable aesthetic features that can accommodate different listening situations within a single venue. Acoustic designers are sometimes hired to create flexible, multi-functional environments that provide various ways to interact with sound in a space. In acoustic

design literature, the acoustics of churches are cited as the most difficult to manipulate because of their various functions. As Christopher Brooks writes,

Churches offer an extreme example of the multipurpose space...A church is a concert hall and a lecture hall in one room at the same time. Church music (organs, choirs, and congregational singing) sounds wonderful in very “live” or reverberant acoustics—the more reverberant, the better. Speech, on the other hand, can be quite difficult to understand in such reverberant acoustics. (122, 76)

To deal with multipurpose issues, acoustic designers have invented creative materials that facilitate more flexible designs. For instance, flying panels, or what are sometimes called “sound clouds,” are curved panels that are hung from the ceiling. These panels are made out of materials that absorb sound to prevent excessive reverberation. One can adjust the amount of reverberation that occurs by experimenting with the placement of the flying panels until a balanced acoustic environment is achieved—an environment that allows some amount of reverberation to enhance singing while still producing the right amount of clarity for speaking. Again, considering embodied inhabitants’ experience of sound in a space is key.

Acoustic designers’ considerations of the embodied experiences and needs of inhabitants provides a valuable model for enriching sonic composing practices in multimodal composition. Encouraging multimodal composers to account for embodied (sensing) audiences would challenge them to come up with creative ways to design complex, flexible sonic compositions that could accommodate a range of different listeners and listening situations. For example, say a student wants to design an audio narrative to embed in a website. An acoustic design approach to this project would require her to think about how to compose this piece in a way that would allow audiences with different preferences or bodily capacities to engage with her work. To

reach a wider audience, then, she might create an audio narrative that includes visual and textual options that could be turned on or off by the user (this would be especially ideal for deaf and hard-of-hearing audiences). She could include a textual narrative that scrolls below the audio file; brief descriptions of the non-verbal sounds (perhaps in colors that correspond to the intensity of the sound) could pop up on various parts of the screen and then fade away, thus enacting the behavior of sound. Such a design would give users more flexibility to engage with this sonic composition via multiple sensory and communicative modes.

I realize that this densely layered and complex form of sonic composition would be difficult to incorporate into multimodal composition classrooms without spending time teaching students how to code, manipulate images and sounds, etc. However, I do think it is important to encourage students to think about embodied audiences in the design phase, even if their ideas are ultimately too technical to execute. Not all listening experiences and situations are uniform, and this is something that needs addressed when teaching students to develop more critical listening and sonic composing practices. While the example I provided may not be realistic for every multimodal composition classroom, I think that acoustic designers' approach to composing for embodied inhabitants provides an excellent model that can help us move toward a more universal, body-centric approach to multimodal composition.

Finally, acoustic designers' multimodal listening and composing practices involve attending to how the sonic experience of a space is connected to its purpose and meaning. To continue with the church example, acoustic designers often need to consult with church leaders about the meaning and significance of their religion in order to design a church's soundscape accordingly. Douglas Jones observes, for instance, that because a Catholic mass revolves around the worship and admiration of Christ, some reverberation is necessary to reinforce a sense of awe

and reverence in the space itself. However, the acoustical manipulation should not interfere with the ornate aesthetic design of the church (stained glass windows, statues, columns, an elaborate altar, etc.), which is also used to accentuate the majestic ambiance of the space of worship. The visual and acoustic qualities of the Catholic church are equally important to maintaining the meaning and function of the mass. As Brooks notes, “there are severe aesthetic constraints on church design. For example, flying panels are an excellent tool for reconciling reverberation and clarity, yet church committees are reluctant to consider such visible measures” (Brooks 122).

Further, acoustic designers of churches must consider inhabitants’ embodied experience of sound because that experience is tied to meaningful religious practices. While aesthetics and acoustic function are inseparable in the Catholic church, Jones explains that in other religions acoustics tend to take precedence over aesthetics. For example, because of the emphasis on preaching in the evangelical religion, acoustical clarity is much more important than aesthetics in the design of evangelical churches, and thus reverberation must be minimized. Jones writes, “In the evangelical style, the preaching of the Word must be supported by the acoustics and the architecture” (159). Evangelical churches are acoustical spaces that are engineered specifically for ear-centric listening experiences. In contrast, the goal of acoustic design in a penecostal church is to affect the entire body; music is the most prominent feature of a penecostal service: “The song service’s function was to make people *feel*, which music is readily able to do...Part of the technique for accomplishing this had to do with the raw psychological manipulative power that extremely loud rhythmic music has over the nervous system” (Jones 161). Experiencing sound as bodily vibration is a means of spiritual connectedness in a penecostal service, and thus the space of the church must accommodate this by using resonant construction materials (certain types of wood, gypsum paneling, glass, etc.). Acoustic designers of evangelical churches must

listen with their whole bodies in order to know when the sonic environment has reached the desired vibrational effect.

Whether students are composing sonic projects in/for digital or non-digital spaces, encouraging them to think about how their use of sound is shaping the meaning of their piece is critical. For instance, a student who creates a digital sonic composition about the dwindling natural sounds in urban environments could be encouraged to come up with creative ways to sonically overpower bird or insect sounds (i.e. gradually increasing the volume of the narrative track or urban noises to drown out the natural sounds; gradually decreasing the natural sounds throughout the entire composition; distorting the natural sounds to sonically enact their disintegration). In this case, playing with the properties of the sounds themselves can reinforce the overall meaning of the composition; sound is used to perform the meaning and argument of the piece.<sup>26</sup>

Adopting an acoustic design approach to sound and meaningful experience also presents an opportunity for students to experiment with different forms of sound in the lower registers. Consider, for instance, a sonic project about the importance of bass in Hip Hop culture. The felt experience of bass is part of what makes it significant and meaningful. Since it is not yet possible in digital environments for listeners to experience the kinds of low frequency sounds that can be felt in the body, this project might best be executed in a space where audiences can feel the bass for themselves (a parking lot where the composer could incorporate the bass sounds from a car, or a space where loud speakers could blast felt vibrations). Turning to non-digital sonic

---

<sup>26</sup> Attending to the relationship between non-discursive sounds and spoken words in a sonic composition is also an important part of learning how sound can shape or distort the meaning of a piece. For instance, many of the student podcasting projects I have encountered tend to overpower spoken words with background sound or music, even in parts where the words are more important than the other sounds. Teaching students to strike a balance between different kinds of sonic elements in a composition is a critical part of teaching them to use sound in strategic ways.

experiences and spaces is a great way to help students create multimodal compositions that engage their audiences in more powerful, holistic, *embodied* ways.

Acoustic designers' ecological approach to sound offers a model for developing more experimental, expansive approaches to teaching listening and sonic composing practices in multimodal composition. I want to be clear that the examples I have included are meant to offer some initial possibilities for heightening students' sensitivity to the dynamic relationship between sound, bodies, and environments. I think cultivating this kind of awareness is especially important in multimodal composition courses because it is so easy to forget that digital space is an environment at all. Students manipulate sound while looking at a flat, two-dimensional screen; they listen to sonic compositions through computer speakers or earbuds that diminish the effects/affects of sound (compared to sonic experiences in three-dimensional spaces). However, learning to attend to any sonic encounter as an event that is shaped by its environment can help composers make more informed decisions about how to design sonic experiences for various contexts and embodied audiences. And, as I will discuss in the next section, encouraging an acoustic design approach to multimodal composition is a way to deepen students' understanding of sonic interactions and listening experiences that occur outside of educational contexts. Learning to listen and compose like acoustic designers can enable students to develop an acute awareness of how designed sound works and affects in the environments that they inhabit in their everyday lives.

## II. Listening Bodies and the Rhetoricity of Designed Sound

Teaching students to cultivate an acute attention to sound in multimodal composition courses is important not only because it can help to enhance their sonic composing practices, but because it can help them become more engaged, critical consumers of sound in everyday environments. Indeed, many sonic environments are designed to persuade inhabitants to move through, interact with, and listen to space in particular ways. Understanding how sound works and affects in an environment could give listeners insight into the ways that sound may be influencing their listening habits and behaviors. Of course, not all sonic environments are rhetorical, or designed for the purpose of persuading inhabitants. However, taking an ecological approach to sound in any environment can help students think through how and why sound is being employed (or not). Attending to the ecological aspects of soundscapes can also provide a bridge between the sonic composing practices that students develop in the classroom and their encounters with the familiar sonic spaces that they move through everyday. In other words, their sonic encounters in everyday spaces can be used to inform their sonic composing practices, and vice versa.

It is necessary to draw listeners' attention to the relationship between sound and space in the environments they inhabit because most people are unaware of it. In part, this lack of awareness is due to the fact that over time, listeners have been trained to ignore the spatial aspects of sound in the environments that they inhabit. For example, reverberation—a sonic event that calls attention to space—has been largely eliminated since the widespread development of the acoustical technologies industry in the 1930s.<sup>27</sup> Emily Thompson explains

---

<sup>27</sup> By 1930, the acoustical materials industry was booming. Dozens of corporations began manufacturing new products that promised to change the way people controlled sonic environments. Thompson writes,

that these technologies, which were incorporated into office buildings, apartments, schools, and other commercial spaces, used “unprecedentedly absorptive materials” that “created a sound that was clear and direct” (170). The elimination of “noise” (including reverberation) in city buildings became the new norm, and the success of the acoustical materials industry fundamentally transformed the way the public experienced sound in everyday life. Thompson writes, “When reverberation was reconceived as noise, it lost its traditional meaning as the acoustic signature of a space, and the age-old connection between sound and space—a connection as old as architecture itself—was severed.” (172).<sup>28</sup> This newfound sense of control over sound that acoustical technologies made possible shaped people’s attitudes toward sound, particularly in terms of what was considered to be an “appropriate” noise level in a building. With their absence of reverberation, these “modern” sonic environments prevented the spatial qualities of sound from becoming apparent, thus deemphasizing the connection between sound and space in everyday architectural experiences.<sup>29</sup>

Modern architecture may have contributed to the general lack of attention to the relationship between sound, bodies, and environments, but I would suggest that cultivating multimodal listening practices like acoustic designers can serve as a way to reinvigorate listeners’ awareness of how the sound in a space is being used to persuade or manipulate them.

---

“There were insulating papers, rigid wallboards, stonelike tiles, plasters, and all sorts of mechanical devices for structurally isolating floors, walls, and ceilings” (170).

<sup>28</sup> In this respect, the 1926 construction of the Cathedral of Learning, which incorporated acoustical tiles to prevent excessive reverberation, was rather prescient.

<sup>29</sup> Thompson is pointing out a general pattern as opposed to making a blanket statement about the lack of reverberation in modern architecture. In addition to the examples I discuss in this section, the acoustic design of restaurants and bars are a good example of the strategic use of reverberation in modern buildings. Indeed, many restaurants and bars are designed to be reverberant in order to raise noise levels, thus making those spaces seem more crowded and exciting even when they may not be. In these cases, though, the intention of the design is not to call attention to the architecture itself, but to enhance patrons’ experiences.

Multimodal listening practices can help listeners become more sensitive to the *rhetoricity of sound*, to how sound is working rhetorically (or not) in various contexts. To get a better idea of what I mean by the rhetoricity of sound, below I examine soundscapes that have been designed to influence listeners' experiences.

Sonic environments are often designed to persuade inhabitants to move or behave in particular ways. In our interview, for instance, Greg described the challenges of designing a public atrium—a space that needs to be lively, but not uncomfortably noisy. He notes, “A lively lobby or atrium will encourage users to mingle and socialize. As they move further into the building, a quieter, deader acoustical environment will cue them that they’ve entered a quiet area of the building and they’ll act accordingly” (Personal Interview). Lobbies are places where socializing is expected, and thus they are designed to be sonically “lively” places. As Greg noted, to add some extra noise and life into the space, lobbies are often constructed with reverberant materials. Reverberation makes it seem as if there is more sound filling a space than there actually is, thus giving the space a warm, energetic atmosphere that makes people feel like it is appropriate to talk loudly, be more social, etc. As people transition to other spaces in the building, however, they are “cued” to behave differently. Greg’s use of the word “cue” is interesting because it implies that the acoustics of the space serve as a signal that reminds people to adjust their behavior. Like the Commons Room in the Cathedral of Learning, “a quieter, deader acoustical environment” is designed to persuade people to be less animated and social as they move through a building.<sup>30</sup> Sound is used in these cases as a subtle but persuasive force that influences the ways that people interact with and travel through a space.

---

<sup>30</sup> Interestingly, the number of human bodies that are expected to occupy a space also needs to be taken into account in the acoustic design of the space. As David notes, “Bodies act like sound absorbers in the audience, but they also are sound generators when they talk and move about” (Personal Interview). Since

While inhabitants of lobbies may not be aware of how sound is affecting them, some spaces—like music halls—are designed to persuade inhabitants to pay close attention to their listening behaviors. Because sound plays an obviously important role in music halls, they are designed to encourage inhabitants to participate in a thoughtful and focused kind of listening. This notion about the rhetorical function of acoustics in music halls has a long history. For example, Thompson notes that in eighteenth century Europe, the performance of music in concert halls—an attempt to crystallize music as a serious intellectual art—became increasingly popular. However, because audiences were used to raucous and interactive street performances, this “street” behavior continued in concert halls. Thus, people began to design concert halls in ways that encouraged a specific kind of listening practice. Thompson writes,

When Count Francesco Algarotti had petitioned for an acoustically controlled architecture in 1762, he pleaded as vehemently for a new attitude toward listening to accompany the sound. Algarotti longed for a rationally designed theater that would no longer constitute ‘a place destined for the reception of a tumultuous assembly, but as the meeting of a solemn audience.’ His desire to control the sound was paired with an equally strong desire to control the behavior of the audience. Algarotti himself already constituted such a concerted listener, and he sought an architectural means to engender this attentive way of listening in all concertgoers. (46)

Eventually, concert halls were constructed with an intentionally solemn decorum and a controlled acoustic environment. The use of sound proofing materials and other acoustical technologies sealed off the hall from outside noises, thus separating the space of the music hall from street sounds. Large columns and decorative statues also contributed to the building’s

---

bodies have the capacity to change a sonic environment, they need to be considered as a part of the material environment.

serious and sophisticated ambiance. Such measures helped to redefine concert halls as hallowed spaces where specific kinds of attentive listening practices were expected.

In sharp contrast to the rigorous, concentrated listening practices incited by the design of concert halls, many modern environments have been designed to encourage distracted listening. In most commercial spaces, programmed music—a sonic wallpaper of sorts—has become an integral part of acoustic architecture. In an article about Minnesota’s famous Mall of America, for instance, Jonathan Sterne observes that the programmed music in the mall is both a form of architecture and a capitalist business strategy. Sterne notes, “A store deploys programmed music as part of a fabricated environment aimed at getting visitors to stay longer and buy more” (5).<sup>31</sup> Stores use particular kinds of playlists to increase the amount of time shoppers spend in them. Market research has shown that the longer shoppers are in a store, the more likely it is that they will buy something (10). Programmed music encourages a pleasurable state of distraction in shoppers, which often causes them to linger in stores for longer than they may have intended.

I should note that programmed music is not always the same thing as Muzak. While programmed music often refers to recognizable songs—like a radio station designed specifically for a store, Muzak refers to the lyric-less and often banal instrumental versions of popular songs (Muzak is the brand name of a now defunct company that produced these songs, but its name is applied to this genre writ large). Sterne explains that the musical qualities of Muzak (volume, rhythm, tone, etc.) play an important part in how bodies move through stores or not. Indeed,

---

<sup>31</sup> Muzak is not only used as a tactic to get shoppers to consume. Historically, it has been used to attempt to control the speed of production. During WWII, the Muzak corporation invented “stimulus progression” to influence the pace and intensity of workers in factories. Steve Goodman writes, “Stimulus progression tactically organized the day around the pulsing center of gravity of the human heartbeat at roughly seventy-two beats per minute. Increasing and decreasing tempo across the day could therefore produce intensification or disintensification. Alternating between music and quiet would produce alertness by the oscillation between silence and arousal” (144).

Muzak is used to demarcate different spaces of the mall and to influence the behaviors of the bodies in those spaces. For example, while many stores use familiar songs that people recognize, Muzak is piped into the hallways of the mall. According to Sterne, the hallways' soundtrack is "a transitional space, a space of movement... The mall management does not intend the hallways as a destination for Mall visitors" (11). In contrast, the various stores in the mall all have their own brand or genre of music played at different volumes. Sterne observes,

If the volume of the store's music is moderate, the placement of the speakers within the store will determine a sonic threshold: on one side the ambiance of the hallway is primary in a listener's auditory field, and on the other side the sounds of the store will be primary in a listener's ear. This sonic threshold, often a discernible physical point, behaves as a store's front wall. Through clear acoustical delineation, the music produces a sense of inside and outside. (12)

While the store's music distinguishes the store spatially from the hallways, depending on the volume it can also serve as a way to lure people into the store. I want to be clear that I am not arguing that the deployment of sound or music in certain spaces *controls* the bodies of inhabitants. Rather, designed acoustic environments are intended to *persuade* people to behave in particular ways. The distracted kind of listening encouraged by the mall's programmed music and Muzak is designed to persuade bodies to gravitate toward merchandise. Once shoppers are lured in by the sounds, they often get lost in the memories or moods that they associate with the music or Muzak, thus ignoring aspects of their shopping experience that might otherwise deter them from buying things (i.e. high prices).

It is important to recognize that the rhetorical strategies associated with the design of sonic environments are not always effective. For instance, because these strategies depend

primarily on audible sound, they fail to work on deaf or hard-of-hearing individuals. And, while the rhetoricty of sound in designed environments can influence listeners' feelings and behaviors, listeners often use their own strategies to counter this influence. Now more than any other time in history, new technologies have given people the option of producing and controlling their own sonic spaces.<sup>32</sup> For instance, noise-cancelling headphones have enabled travelers in loud, cramped quarters to escape into a quiet and isolating environment. In an article about Bose QuietComfort Acoustic Noise Canceling Headphones, Mack Hagood notes, "the QuietComfort brand name conjoins the aural and the tactile—not to mention the aural and the psychological—into a single sign, connoting a quiet respite from physical and interpersonal entanglements. This fabrication of physical and psychological space through the aural is what I refer to as soundscaping" (575). In a traveling context, personal soundscaping is a way to avoid coming into contact with noise that might invade one's sonic space in unwelcome ways. Closing one's eyes or zoning in on a computer while canceling the noise around oneself serves as a way to erase the surrounding environment, sonic or otherwise.

Technologies such as mp3 players and smartphones also enable users to creatively produce and escape into their own sonic worlds.<sup>33</sup> For example, consider the popular iPod advertisements that feature a black silhouette of a person (equipped with dangling iconic earbuds) against a solid brightly colored background (Shadowlock). In the commercials, the iPod-clad silhouettes move ecstatically as if they were possessed by music, and in the print ads

---

<sup>32</sup> Technologies such as doors and insulation, which have obviously been around for a lot longer than noise-canceling headphones, enable similar kinds of control. However, newer technologies have refined that control and made it mobile. Now people can produce their desired sonic environments in their own dwellings and on the go.

<sup>33</sup> See Michael Bull's exploration of mobile sonic technologies and urban space in *Sound Moves: iPod Culture and Urban Experience* and *Sounding Out the City: Personal Stereos and the Management of Everyday Life*.

the bodies are frozen in dance poses. The fact that the bodies of these iPod users are blacked out is significant. The black silhouettes and the solid background signify that the listeners are in their own interior worlds. Rather than positioning the iPod users in a detailed, visually interesting environment, the mono-colored bright background is used to depict a kind of joyful intensity—a feeling as opposed to a physical space. iPod listeners in these ads literally seem to lose themselves (they are merely shadows) and their embodied sense of being in the world around them. In fact, in the most recent iPod commercials, the bodies of listeners are not included at all. Rather, the iPod is displayed bouncing and flipping to the music on its own (Deluigi). In this sense, personal soundscaping via the use of mp3 players has an effect that is similar to noise-canceling headphones. Hagood observes, “by facilitating the shift of attention to the virtual space of a stereophonic soundscape and/or computer screen, soundscaping allows users to disappear their *own* bodies as well, an ontological shift that reconfigures subjects’ relations to their surroundings” (583). Like those who sport noise-canceling headphones, iPod users usually have the option of “disappearing” into their music or employing it to infuse and color the environments in which they are situated.<sup>34</sup>

These personal soundscaping practices are significant because they can empower listeners to take more control over their sonic environments. There are certainly times when people do not want to be attuned to their surroundings, and soundscaping devices can be used strategically to help individuals customize their soundscapes to suit their own needs and desires. In the case of mp3 players, personal soundscaping can also be a creative, compositional act (i.e. constructing musical playlists for different activities, moods, spaces, etc.). It is important to note, however, that personal soundscaping is a privilege that is not available to everyone; one must be

---

<sup>34</sup> I say “usually” because environmental noises can still invade one’s personal soundscape; earbuds are not full-proof external sound-blocking devices.

able to afford personal soundscaping technologies in order to have access to this kind of control. Thus, the cost of these devices excludes many listeners.<sup>35</sup> In addition, when people lose themselves in their own personal soundscapes, it means that they are not attending—or at least not listening in the ecological way I have been promoting—to the sonic environments they inhabit or to how those environments are affecting their bodies. Noise-canceling headphones may drown out environmental sounds and the people and things that produce them, but blocking out “noise” often means severing oneself from a shared sonic community. Personal soundscaping practices encourage ear-centric listening habits that can cause listeners to become sonically disengaged from the soundscapes in which they are situated. Thus, personal soundscapers often miss opportunities to listen to environmental sounds that can provide salient information about the places they are traveling through and the people and cultures surrounding them.

While there are advantages to using personal soundscaping devices, I would argue that listening exclusively to self-created, enclosed personal soundscapes impoverishes individuals’ knowledge of how sound means, works, and affects as part of a larger ecology. This is not to say that people should stop using personal soundscaping devices. Rather, the limiting sonic experiences that are associated with these popular devices amplify the need for an ecological listening education that can train students to be more engaged and critical consumers of the sonic environments they move through. The pervasiveness of personal soundscaping practices provides an exigence for multimodal listening education. Teaching students to listen and compose more like acoustic designers can heighten their sensitivity to the functions,

---

<sup>35</sup> However, as Tyler Bickford points out, the cheapest mp3 players are now cheap enough for most middle schoolers to own (10). Though there are certainly still many people who cannot afford to purchase digital audio devices, they are becoming more affordable every year.

effects/affects, possibilities, and limitations of both the soundscapes that they choose to design or participate in *and* the soundscapes that are beyond their control.

### **III. The Sounding Pittsburgh Project**

As I have argued throughout this chapter, increasing students' awareness of the ecological aspects of sonic encounters involves creating assignments that ask them to attend to sound in a diverse range of digital and non-digital environments. To offer a concrete approach to integrating new soundscapes into multimodal composition pedagogy, I want to conclude by discussing a project from my own classroom. The "Sounding Pittsburgh" project, a listening-based composition assignment that I created for my students at the University of Pittsburgh, demonstrates how teaching students to develop ecological, multimodal listening practices like acoustic designers can help to expand and enhance their listening and sonic composing practices. My hope is that this example will inspire others to experiment with dynamic approaches to the teaching of listening and sonic composing practices in rhetoric and composition.

#### *Project Description:*

The "Sounding Pittsburgh" project required students to work in teams of two to compose a digital sound map (or soundscape) of the Pittsburgh neighborhood of their choice. Teams conducted field research by recording sound in their chosen locations. They spent time listening in/to the neighborhoods, taking notes, and capturing sound recordings with digital audio recorders. After completing this fieldwork, teams were asked to assess their large collection of sonic material and choose the sounds that they felt best represented their neighborhood. In addition to the sounds, teams were asked to co-write a reflective blog post (including digital

pictures of their neighborhoods) that provided an analysis of their experiences with their chosen soundscape. Once each team selected and edited the sonic, textual, and visual information from their neighborhood, we synthesized everyone's material to compose a collaborative soundscape of Pittsburgh. We then treated our collaborative sonic composition as a course text. The dual aim of this project was to get students thinking about the affordances and limitations of sonic composition in a digital environment, and to deepen their understanding of how sound means, works, and affects in everyday environments.

### *Digital Sound Maps:*

Before students began their fieldwork, we spent several classes interacting with and discussing digital sound maps. A number of elaborate digital sound maps have cropped up on the web in recent years.<sup>36</sup> Authors of these maps (usually multiple people and/or communities) digitally record sounds from an environment and upload them to the map's website. Many digital sound map websites include images and text as a supplement to the sound. Users are encouraged to click through visual maps and listen to the embedded sound files. The point of sound mapping is to give users an opportunity to listen closely to the soundscape of a place to get a better sense of what life is like there; and, for people who already inhabit those places, digital sound maps amplify sounds that they may not attend to otherwise.

My students spent time navigating and exploring a variety of digital sound maps, considering how each map was composed, how it worked, what purpose it served, and what its limits and affordances were in terms of using sound to represent a place/space. Before beginning

---

<sup>36</sup> See, for example, see the "London Sound Survey" and the "nysoundmap" project. Digital sound mapping initiatives have generated so much interest that there is also a new need for "how-to" sites such as "Making Maps" and "The Music of Sound" (all links available in Works Cited).

the project, then, students got hands-on experience playing with and analyzing these collaborative compositions. The digital sound map examples served as loose models for the collaborative sound map we were aiming to create in the “Sounding Pittsburgh” project. More importantly, listening to these digital sound maps got students thinking about the kinds of sounds in their own environments that they often ignore. In our discussion of the digital sound map exercise, many students expressed that they were surprised by how familiar sounds (like traffic or birds or children playing)—things that they did not spend much time reflecting on in their everyday lives—could provide salient information about particular neighborhoods (i.e. environmental and atmospheric information, as well as information about the lifestyles of the inhabitants of those spaces). Thus, the digital sound map exercise served as a way to heighten students’ sensitivity to environmental sounds and their significance before setting out to do their own fieldwork.

### *Fieldwork, Sound Selection, Editing and Manipulating*

Teams were given class time to do fieldwork in their chosen neighborhood. I instructed them to spend time listening to and recording sound from as many different parts of the neighborhood as possible. Each student also took notes about their own listening experiences to later use in their co-produced blog post. Once teams collected what they felt was a sufficient amount of material and imported it into Audacity (a free, open-source audio editor), they had to choose which sounds best represented their listening experiences in the neighborhood. Then they edited and manipulated the selected sounds to prepare them for our collaborative sound map (editing and manipulating in this case was minimal—cutting down long sound files into more digest-able listening experiences, amplifying recordings that were too quiet, etc.). Once each

team finished preparing their sound files and writing their blog posts, we attempted to upload everything onto the course blog. Unfortunately, the size and number of sound files were too much for the blog to handle, so we decided to listen to the mp3 files during a presentation instead (I'll address this further in the "limitations" section below). In their presentations, each team had a chance to share their neighborhood soundscape with the class, as well as a version of the textual and visual analysis/discussion from their blog post.

### *Reflecting on Our Digital Sound Map of Pittsburgh*

After students' presentations, we spent several classes discussing and interpreting the "Sounding Pittsburgh" project as a whole. While students agreed that not all of the sounds they captured were packed with important information, they were able to identify meaningful patterns from their material. For example, one team focused their field research in East Liberty, a largely African American neighborhood that is known as an "up and coming" area of the city. In their presentation, they argued that the multitude of construction sounds they encountered and collected were sonic indicators of the gentrification that was underway in East Liberty. In this case, the sounds they chose to amplify were the ones that provided information about significant social and cultural changes—sounds that might have otherwise been brushed off as temporary annoyances by people passing through East Liberty. Their digital images of the building site for a new Target store juxtaposed with pictures of the run down housing developments that surrounded it reinforced their claim.

Similarly, another team suggested that the abundance of what they labeled as "rich people sounds" allowed them to provide information about the culture and lifestyles of the inhabitants of Shadyside, one of Pittsburgh's wealthier neighborhoods: sounds of high heels, cash registers,

polite conversation, and various noises from bistros and specialty shops. Though the team thought that the sounds they chose to include did a good job at representing this upper-class, privileged area, they used their blog post to add the detail and conclusions that one might not grasp from the sounds alone. Their textual descriptions of interactions they witnessed there—well-dressed people shopping and eating what looked to be expensive meals in the middle of the work day—and the digital images they took of small boutiques, restaurants, and well-manicured lawns further enhanced their representation of Shadyside.

Though students made some insightful observations about sound as a mode of communication, the fieldwork did not go as well as I had initially hoped. Students were supposed to be listening for sounds that they felt were distinctly representative of their neighborhoods, but many of the sounds they collected were from the inside of places like Panera and Starbucks. During discussion, I asked students how these sounds from corporate chains helped to distinguish their neighborhood from other neighborhoods (in Pittsburgh or elsewhere). Students agreed that their overall representation of Pittsburgh and its colorful, unique neighborhoods would not have come across to an audience outside of our classroom. By considering the question of audience—what information and meaning people might glean from inhabiting our digital soundscape—students realized that their collective composition was not the best representation of the Pittsburgh they knew and experienced. However, failing to capture the sonic uniqueness of Pittsburgh turned out to be productive because it highlighted the compositional aspect of the project. It became clear to students that what started out seeming like a mere collection of sounds was indeed a compositional act. They realized that the choices they made as composers about what sounds to include in the map significantly shaped the meaning of our overall composition. Our sonic story about the corporatization of Pittsburgh came with the

price of leaving out many other perhaps more interesting stories about the city. While our soundscape failed to tell all of the stories students wanted to tell about Pittsburgh, reflecting on the selection of sonic material laid the groundwork for discussing how future revisions of our map might capture what is sonically unique about the city.

The most illuminating aspect of our discussion of the “Sounding Pittsburgh” project was about listening contexts. Spending time listening to sound during fieldwork contributed to students’ knowledge of how soundscapes influence embodied listening experiences. For example, we spent a lot of time talking about how the embodied experience of listening to the sounds of a neighborhood differed from students’ recordings of those sounds, and about how a neighborhood’s sounds might affect the human bodies that live there. As my students recognized, the experience of sound in its original context was something that was lost when we captured it for our composition. As one student commented, the sounds that we captured seemed more like a snap shot or image of sound rather than a lived experience. The limits of sonic composing in digital environments came into sharp relief after physically experiencing neighborhoods’ soundscapes during fieldwork. By comparing and contrasting their listening experiences in the neighborhoods and the listening experiences they had with our digital version of the soundscape, students were able to point out the affordances and limitations of sound in both contexts.

As for limitations, students concluded that digital sound maps can only provide a small slice of what a soundscape is really like because they cannot capture something that is always changing. For example, if I stand in one spot and record sound for a few minutes, and stand in the very same spot and record a few hours later, the sounds I capture will not be the same. As Blesser and Salter write, “soundscapes are alive by definition; they can never be static” (15). Our

digital soundscape of Pittsburgh transformed specific sonic moments into something that could be experienced repeatedly. This is far removed from the embodied, immersive, ever-changing experience of encountering sound in its original environment. Of course, listening to recorded sound, whether it is digital or analogue, is a sensory experience too. However, the “Sounding Pittsburgh” project made apparent to students that experiencing sound in the context of its sounding is much more intense, affective, and dynamic compared to experiencing the same sounds through tiny computer speakers.

Discussing the diminished bodily aspects of sonic experience when we listened to our digital soundscape also resulted in something that I did not anticipate: my students’ renewed sense of value in textual writing. Without provocation from me, students suggested that they could use textual writing on the blog to represent and describe their affective experiences with sound during fieldwork in revised versions of the “Sounding Pittsburgh” project. What we deemed as limitations of sound in a digital context created a new exigency for textual writing in our multimodal composition. Identifying the limitations of sound in digital environments helped students recognize that writing would be a better mode to communicate that particular aspect of their experiences in a more detailed way than non-discursive sound or image could do alone.

In comparing their fieldwork listening experiences to the final collaborative soundscape, students also identified some affordances of sonic composing in digital contexts. Because of the technical difficulties we had getting all of the sound files in one place, students referred back to one of the example digital sound maps of New Orleans in this discussion (which was ultimately what we would have liked our digital sound map to look/sound like). “Open Sound New Orleans,” a well-funded sound mapping initiative, is a large-scale community project that encourages New Orleanians to capture the sounds of their lives and neighborhoods. Contributors

can choose which sounds they want to upload as digital sound files to the project website that then become part of a collaborative composition of New Orleans' rich sonic culture.<sup>37</sup> As my students' noted, what interacting with this digital sound map makes possible that an actual visit to the city of New Orleans does not is the opportunity to access and pinpoint sounds from diverse areas of the city in a single space. For instance, I can listen to sounds in the neighborhood of Treme, and a few clicks later I can listen to sounds in the Lower 9<sup>th</sup> Ward. Though the sounds might not be accurate or comprehensive representations of these neighborhoods, because of the massive number of sounds collected it is possible to locate patterns in their soundscapes that can provide information about the life and culture in these areas of the city. By capturing thousands of sound files in concentrated locations, digital sound maps give users the chance to repeatedly examine the soundscape of particular communities—something that may not be possible during ephemeral experiences with sound in everyday life.

Another affordance of digital sound maps that students identified was the that they enable listeners to experience, organize, analyze, and compose with sound in ways that are not possible during live sonic encounters. In “Open Sound New Orleans,” for example, users can access visual and textual information about the exact location of the sounds they click on, as well as a textual description of the sound. Much of the specific information about the sources of particular sounds (native wildlife, cultural performances and events, etc.) may be unfamiliar or not easily accessible to, say, tourists visiting New Orleans who are just walking through a neighborhood. The creators of Open Sound New Orleans also categorized the sounds by using tags. For instance, on the main page of the site, users can click on tags such as “transportation,” “tourism,”

---

<sup>37</sup> The Open Sound New Orleans project is particularly unique because, unlike other sound mapping initiatives, it provides dispatches throughout the city that offer free training and recording equipment to interested individuals. Regardless of their economic or educational status, it is possible for all community members to contribute to the project.

and “police,” among many others, in order to find areas of the city that contain the sounds associated with specific themes or categories. Thus, the digital sound map provides a kind of sonic search engine that allows users to interact with sound in ways that would not be possible in non-digital soundscapes.

### *Limitations and Future Revisions of the Sounding Pittsburgh Project*

Though I feel that my students learned a great deal about how to practice more ecological listening and sonic composing practices during the “Sounding Pittsburgh” project, I would do some things differently the next time I assign this project. Most importantly, I would provide a digital space (like a website or digital mapping software) that students could use to house their collaborative sound map. Because this assignment was given as part of a summer class and there were major time constraints, I decided to use a blog—a forum that ultimately failed. Using a website would have also given students more freedom in designing their neighborhood’s soundscapes, like adding textual and visual information in the ways that “Open Sound New Orleans” modeled.

This project is also restrictive in that it is largely dependent on ear-centric listening practices. While students were prompted to think about their embodied, multisensory listening experiences and about sound in relation to different modes and contexts, audible sound was critical to our final product (and to our discussions about that product). Clearly, deaf and hard-of-hearing students would not be able to participate in this project in the same way as hearing students. However, if more visual and textual information were included in a revised version of this assignment, then a wider variety of listeners could participate. Having future students write textual descriptions of their embodied experiences with sonic environments would enable

everyone (listeners of all capacities) to contribute to an important dimension of embodied knowledge that was missing from our original Pittsburgh soundscape. I realize that this is not a perfect solution, but encouraging students to use text and images to capture the multimodal experience of sound in a revised version of the “Sounding Pittsburgh” project would be a step toward creating more inclusive listening and sonic composing assignments that value a broader range of listening experiences.

The “Sounding Pittsburgh” project is one way that I have tried to integrate a more ecological approach to sound and listening into my classroom. Multimodal listening practices encourage students to consider more than the content of the multimodal compositions they create; these practices require them to attend thoughtfully to their own embodied listening experiences and to the environments in which they compose. It is important for these kinds of ecological practices to be incorporated into multimodal composition because when students are taught that multimodal composition is something that happens exclusively on computer screens or that sonic composition is an exclusively ear-centric practice, they are given a falsely narrow view of what it means to be an engaged, critical listener and composer. In order to teach students about the richness and complexity of multimodal experience in the multimodal composition classroom and in their everyday lives, multimodal listening practices need to be a fundamental part of multimodal composition pedagogies.

#### **4. A Tale of Two Soundscapes: The Story of My Listening Body**

This *in-between composition*, or *intermezzo*, is a creative, critical digital audio piece that intertwines narrative, field recordings, and engineered sound to tell the story of my personal experience moving from Cullowhee, North Carolina to Pittsburgh, Pennsylvania in 2008. It traces the ways in which two different soundscapes affected my listening body and changed how I learned to listen to the world. “A Tale of Two Soundscapes” amplifies the relationship between sound, embodied experience, and the environment, thus making apparent the complex ecology of sonic events. In short, it serves as a meditation on some of the experiences that led to my own development as a multimodal listener. By sonically enacting the arguments of my dissertation—particularly chapter 3—this piece takes advantage of the affordances of sound that are not available in exclusively textual chapters.

While I have attempted to capitalize on the affordances of sound, it is important to acknowledge that there are some limitations in the digital audio format that I chose to use. For example, though I describe how sound affects my body throughout the audio narrative, listeners cannot feel (or see) sound as I did. Sonic experience is etiolated in this digital context. Further, deaf audiences do not have access to the final sonic product that I am sharing (though the textual version is available below). Clearly, this sonic composition is not ideal for all listeners. However, from a pedagogical perspective, the process of experiencing sound in different contexts and reflecting on those experiences during the making of the sonic composition is more important than the final product. As I have stressed throughout my dissertation, reflecting on one’s embodied interactions with sound—regardless of one’s bodily capacities—plays a key role in

cultivating thoughtful, sensitive multimodal listening practices. My hope, then, is that this piece will provide a productive model of the kinds of reflective practices that are vital to multimodal listening education.

## **I. Audio Track**



## **II. Script for “A Tale of Two Soundscapes”**

*Audio Running Time:* 9 minutes, 7 seconds

*Note:* All of the sounds (including vocal narrative tracks) that are not listed in the Works Cited are personal field recordings that I captured in North Carolina and Pittsburgh during the summer and fall of 2012.

*Audio:* crickets chirping

*Voiced Narrative:* A little over 5 years ago, I was living in a trailer park near the Smoky Mountains of North Carolina. Crickets were responsible for the most intrusive sound in my general area.

*Audio:* crickets fade out; birds tweeting, quiet soundscape of a wooded area

*Voiced Narrative:* That summer, I packed up my trailer and moved into a tiny apartment in the city of Pittsburgh to begin my graduate studies.

*Audio:* birds and natural sounds fade out; abrupt sounds of ambulance sirens, Pittsburgh traffic noise, heavy roadside construction swell and then decrease in volume

*Voiced Narrative:* As you've probably gathered, there was a bit of an adjustment period...

*Audio:* kids screaming, playground noises

*Voiced Narrative:* My apartment was located across the street from a school...

*Audio:* ambulance sirens, traffic, car alarm

*Voiced Narrative:* and a few blocks down from a hospital...

*Audio:* sounds of a Pittsburgh bus announcement and bus pulling away

*Voiced Narrative:* There was also a bus stop right outside my window.

*Audio:* layered Pittsburgh sound recordings continue at a low volume

*Voiced Narrative:* Being a music nerd of sorts, I have always been sensitive to how music can powerfully alter your mood or create an ambiance. But it wasn't until I made the move from Cullowhee, North Carolina to Pittsburgh that I realized how much of an impact environmental sounds have in shaping the overall experience of a place.

*Voiced Narrative:* I was especially surprised by the physical effects of sound that I began to notice. For the first several months of living in Pittsburgh, I was exhausted. My body felt like it was being *assaulted* by sound.

*Audio:* Pittsburgh sounds fade out; abrupt garbage truck noise

*Voiced Narrative:* The powerful sonic presence of garbage trucks seemed to shake and rattle through my rib cage.

*Audio:* ambulance sirens

*Voiced Narrative:* Shrill ambulance cries made my heart race and thump. These repetitive but fleeting encounters with sound in the city left my muscles tense, my nerves fried. I was always on edge.

*Audio:* garbage truck and ambulance sounds gradually fade out; mix of sounds from a coffee shop and sounds of people walking down the street plays for a few seconds and fades out

*Voiced Narrative:* I became so hyperaware of how the sounds around me were a source of mental and physical discomfort, even my furniture and appliances started driving me crazy.

*Audio:* sounds of loud, creaking Murphy bed springs

*Voiced Narrative:* The metal rungs of my Murphy bed made a noise that made me feel like I was sleeping in a torture chamber.

*Audio:* Murphy bed sounds fade out; transition to refrigerator sounds

*Voiced Narrative:* When the old refrigerator got overheated, it sounded like a revving engine—as if it were about to take off into the streets on its own. I tried to avoid my apartment during the day, but night after night, a barrage of sounds kept me from sleep.

*Audio:* refrigerator sounds fade out; transition to sounds of street traffic swooshing by

*Voiced Narrative:* As time passed—a *lot of time*—I seemed to get used to the noise. After so many years of walking the streets in Pittsburgh, the constant rush of traffic that once seemed abrasive became a source of comfort. It was like my new sonic wallpaper; these sounds now felt like home. My body learned to adapt to the new soundscape...or at least a little.

*Audio:* traffic sounds gradually fade

*Voiced Narrative:* But I also got a lot better at ignoring my bodily responses to environmental sounds. Shortly after I moved to Pittsburgh, I bought an iPod, and it quickly became a part of my everyday wardrobe.

*Audio:* music track begins (mix of hip hop and rock)

*Voiced Narrative:* I created elaborate playlists for bus rides, walks, showers, studying. I started training for a ½ marathon and constructed 3 hours of music based on the beats-per-minute I needed to keep pace. You name it, I had a soundtrack for it.

*Audio:* music track fades into total silence

*Voiced Narrative:* When I was plugged in, it was like I unplugged everything else. I tried to make up for my lack of control over the sonic environment by designing a customized soundscape that I felt comfortable inhabiting. My iPod taught me to practice a withdrawn, interior kind of listening that enabled me to cope with the environment I found so agitating.

*Audio:* crickets chirping

*Voiced Narrative:* Last summer, my friends invited me to come visit them in North Carolina. Their house is located near the trailer park where I used to live. At that point I was pretty deep into dissertating, and was excited by the promise of peace and quiet—of getting away from the city and being in a place where I didn't have to use my iPod 24/7. For weeks I dreamt about the calm nights filled with crickets. I couldn't wait to get there...

*Audio:* cricket sounds fade out

*Voiced Narrative:* However, things didn't turn out exactly as I'd planned.

*Audio:* extremely loud cicada noises

*Voiced Narrative:* This is what I listened to all night long as I stared at the ceiling. The sounds of nature seemed deafening to me. And on top of the sheer volume, the sounds made me feel uneasy. Not only were there loud insects right outside my window, there were all kinds of crackling and rustling noises coming from the dark woods that surrounded me.

*Audio:* intermittent sounds of rustling in bushes

*Voiced Narrative:* I think the thing that bothered me most about the soundscape, though, was its lack of human sounds. I couldn't hear the footsteps of my neighbors as they filed in after a trip to the grocery store, or the ambulance sirens that rushed people to the hospital down the street.

*Audio:* rustling and cicadas fade out

*Voiced Narrative:* Those sounds let me know that people were there if I needed them. In contrast, the overpowering sounds of nature made me feel cut off. It was an unsettling experience.

*Audio:* sounds of footsteps walking on a dirt path

*Voiced Narrative:* As I hiked around the mountains over the next few days, my body began to feel much like it did when I first moved to Pittsburgh.

*Audio:* footsteps fade out

*Voiced Narrative:* My muscles got tense again, my heart rate shot up. This time, however, the sonic encounters that I felt physically assaulted by were coming from unexpected sources.

*Audio:* sounds of loud flock of geese transition into powerful waterfall sounds, then all sounds fade out

*Voiced Narrative:* The environment that I once romanticized for being calm and quiet had become strangely amplified. The sounds were jarring, and my body seemed to be on high alert again. By the end of visit, I was actually craving the sounds of Pittsburgh—like the way you might crave a home-cooked meal after weeks on the road. I decided to leave a few days early.

*Audio:* calm traffic noise

*Voiced Narrative:* As I was driving through the city on the way home, I turned the radio off and rolled the windows down. It felt like the first time I really listened to the city. It was dark and the skyline sparkled.

*Audio:* traffic noise continues; music with heavy bass blasting out of a passing car swells and fades

*Voiced Narrative:* A car full of college kids passed me and I felt the bass they were blasting—its energetic pulse—in my throat and chest. It made me feel more alive and physically connected, like I was a part of something bigger.

*Audio:* traffic noise fades; sounds of the outdoor seating section of a restaurant in Pittsburgh's Strip District fades in and out

*Voiced Narrative:* I drove past restaurants and bars where people were seated outside, chattering in distinctly Pittsburgh accents.

*Audio:* steadily moving traffic sounds that continue for the rest of the composition

*Voiced Narrative:* The swift rush of traffic was such a beautiful sound.

*Voiced Narrative:* Though my trip to North Carolina wasn't the sonically pleasant experience I was anticipating, it gave my senses a necessary jolt. The hypersensitivity to sound that I experienced when first moving to Pittsburgh, which eventually dulled as a result of adjusting to and ignoring the sounds around me, was reinvigorated when I immersed myself in the now unfamiliar mountain soundscape. And when I got back to the city, I really noticed sound again. I really listened to Pittsburgh.

*Voiced Narrative:* The sonic experiences I had in these two distinct soundscapes heightened my awareness of my own relationship to sound, of the ways I listened to the world.

*Voiced Narrative:* They got me thinking about the relationship between bodies, sounds, and environments—how both the sounds people are forced to interact with and the sounds people choose to engage with have a profound effect on shaping their listening habits and practices.

*Audio:* rock music track fades in and out

*Voiced Narrative:* Everyday, I see masses of people walking around, earbuds stuffed in their ears, numb to the sounds of their environments. And I wonder if they will ever realize how much

they are missing—if they too will experience the sensory jolt that will reinvigorate their embodied relationships to the sonic world.

*Audio:* sound collage that includes traffic, church bells, ambulance sirens, geese, kids playing, ambient sound from an outdoor market place; sounds slowly trail off into silence.

*The car is one of the most powerful listening environments today, as one of the few places where you can listen to whatever you like, without being concerned about disturbing others, and even singing along at the top of your voice—the car is the most ubiquitous concert hall and the ‘bathroom’ of our time.*

-Ola Stockfeld

*The car becomes a comfortable platform for the boomin’ on-board sound system...The car emerges from this as a place of listening, an intrepid, scaled-up substitute for the solipsistic world of the personal stereo, a kind of giant armoured bed on wheels that can shout the driver’s dwindling claims upon the world into dead public space at ever-increasing volume.*

-Paul Gilroy

## **5. Sounding Cars, Selling Experience: Multimodal Listening and the Sonic Composition of Consumer Products**

The gaze of the camera zeroes in on the sleek black body of a BMW, the center of attention in what looks to be a lab for research and design. Bright lights shine down upon the glamorous car; it is surrounded by plush, theatrical red curtains. The camera continues to pan around the car, periodically zooming in on specific features, as a masculine voice announces: “the evolution of beauty and luxury...a texture of impeccable design.” The narration continues to highlight the appearance of the car as the scene shifts to the BMW racing through an anonymous urban landscape. The camera gives a quick glimpse of a woman in the passenger side dancing to music viewers are not privy to, and the BMW speeds off into the distance. Like most car commercials, this 2011 advertisement for the BMW 760LI is focused on the visual (Taimi). Surrounded by curtains, the car is literally on stage; it is meant to be ogled like a Hollywood star. The red curtains provide a striking contrast to the shiny black vehicle, making it pop out against

the background. Every curve and line shimmers in the dramatic lighting. The BMW is visually stunning—on display for all to admire.

Treating cars like eye-candy is a standard theme in automotive advertising, where the visual reigns supreme.<sup>38</sup> What I find fascinating about this ad, however, is the woman dancing to music that viewers cannot hear. The woman's beauty, elegance, and sexuality are used to persuade viewers to associate the car with these same qualities, and the fact that viewers do not have access to the music she moves to amplifies the exclusivity of owning a BMW. More interesting to me, though, is how the sense of environmental privacy in this scene implies that the car is a sonic world unto itself. Indeed, as my epigraphs suggest, the sonic environments of cars play a significant role in driving experiences. As Stockfeld writes, cars provide “one of the most powerful listening environments today,” personalized sonic spaces that drivers can use to escape from the world even as they traverse it (33). Though it is not as celebrated as the visual features of cars, sound plays a salient role in the experience of driving.<sup>39</sup>

---

<sup>38</sup> Car advertisements are beginning to devote more attention to sound, though often in subtle ways. For instance, in a recent Audi commercial in which a driver pretends he is involved in a heist, the engine noise is amplified several times. The slogan “Heighten every moment” is meant to be associated with the suspenseful scenario the driver has thought up *and* with the sounds of the car, which seem to make the experience more thrilling (AudiofAmerica). However, in most cases, the visual rhetoric employed in car commercials still takes precedence.

<sup>39</sup> Sound is not only an important feature of driving experience in modern cars. The relationship between sonic experience and cars can be traced back to the 1920s and 1930s, the time period when driving was first considered a legitimate profession. As Stefan Krebs writes, “professional drivers had to learn to listen to automobiles through hands-on experience, and they had to acquire the appropriate technological knowledge. This technique of listening and the embodied cultural capital were requisite for success as a good chauffeur... With growing experience and habit even the beginner learns to focus his attention on other things, especially his own car, without being distracted from the road. It is primarily the rhythmic and silent run of the engine that requires his attention. The regular humming of the gearbox or chain drive indicates that everything is in best order. He will soon notice that every engine and every car has its own pace and that even the slightest technical problem alters this lovely rhythm. He will involuntarily listen to this pace very closely, thereby avoiding any greater malfunctions. A knock or rattle of the engine, a crunch of the chain, a rattle of a bolt will indicate the spot where the car needs maintenance, and he will do well to follow the slightest hint to repair malfunctions in time before they grow worse” (82). For

In this chapter, I examine sound as an essential feature in the design, production, and experience of cars. While the previous chapter explored listening experiences in relation to a wide range of soundscapes, here I investigate the sonic composing and multimodal listening practices that are associated with the car—a tightly controlled and meticulously composed sonic space. In addition to the sonic control that cars afford drivers, there is one other major difference between the car and the kinds of everyday sonic environments I have considered throughout this dissertation: the car is a sound-driven, multimodal environment that is for sale. It is a *consumer product*, and an extremely popular one at that. As John Urry notes, the car is “the major item of individual consumption after housing” (18).<sup>40</sup> In terms of sound, the car is a particularly unique consumer product because it is both sonically composed and compose-able. Automotive acoustic engineers deliberately compose sonic experiences to attract certain buyers. Drivers can also compose their own sonic experiences by manipulating a car’s environment. As I will discuss, the listening and sonic composing practices associated with the production and consumption of cars are multi-layered and complex.

Composing sound for cars involves designing holistic *multimodal experiences*—a practice that is becoming increasingly popular in product design writ large. As Eefje Cleophas and Karin Bijsterveld write, “while manufacturers had long been interested in what *the consumer did with the product*, since the 1970s they have become obsessed by what *the product does to the consumer*” (119). The manipulation of consumers’ senses has become one of the most important

---

professional drivers, mechanics, and eventually average car owners in the 1920s and 1930s, attending to the sounds of cars was a critical aspect of automotive experience.

<sup>40</sup> Of course, there has been a proliferation of anti-car movements (that condemn the environmental effects of cars, their reliance on foreign oil, etc.). However, as Mimi Sheller points out, “most practical efforts at promoting more ‘ethical’ forms of car consumption have been debated and implemented as if the intense feelings, passions, and embodied experiences associated with automobility were not relevant” (222). To the contrary, these embodied, affective dimensions are a powerful force that has in part enabled car cultures to persist.

strategies in product design. Products are intended not merely to function, but to look, feel, sound, and in some cases taste or smell, a particular way; designers and marketers aim to construct sensory experiences that consumers will find pleasing. Think of the “Snap, Crackle, Pop” slogan of Kellogg’s Rice Krispies cereal, or the “Plop Plop, Fizz Fizz” catchphrase associated with Alka-Seltzer. Television commercials for these brands focus not only on how their products look, but on the sounds and feelings (the crackling and fizzing) involved in consuming them.

Product and experience have become interchangeable terms in today’s economy. Sensory marketing strategies have proven to be so effective that sociologist Gerhard Schulze refers to the current manifestation of consumer culture as the “experience society” (Cleophas and Bijsterveld 118). Because car companies were among the first to tap into the importance of sound in consumer experience, they have set the precedent for sonic design trends in a range of consumer products. Cleophas and Bijsterveld continue, “The notion that sound ‘is well known to enhance or detract from our pleasure in possessing or using a product’ has thus been reinforced by an emerging and growing network of manufacturers, designers, testing companies, marketers, and academics who reciprocally spread the world of sensorial branding and design” (119). Sound is creating a buzz in the product design world that is getting louder every year. As Ellen Byron exclaimed in a 2012 *Wall Street Journal* article, “Sound is emerging as a new branding frontier” (Byron).

Because the strategic use of sound is a rapidly growing trend in consumer products, it seems to me that students need to develop listening practices that will make them more critical consumers of the products that they use in everyday life. I want to suggest that the emphasis on holistic, multisensory experience in the design and production of consumer products—from cars

to kitchen appliances to toys—makes these products ideal objects to explore in the multimodal composition classroom. Alongside developing listening practices that will help them become critical consumers of sound, students need to learn how to participate in “experience society” by composing more explicitly multimodal projects (Cleophas and Bijsterveld 118). That is, sonic composing projects should encourage students to attend to how sound works with and against other modes and materials, and to the embodied, sensory experiences that their compositions enable (or not). In this chapter I argue that cultivating body-centric multimodal listening and sonic composing practices via engaging with and creating sonic products can deepen students’ understanding of how sound can be used as a persuasive force that works as part of a larger sensory and material network, as well as how the rhetoricity of sound operates within the products/experiences that they encounter in everyday life.

My examination of sonic composing and multimodal listening practices in cars will serve as a foundation for developing a broader critical approach to *any* sonic product/experience—an approach that can be adopted and adapted for the multimodal composition classroom. I have chosen to use cars as a primary example in this chapter instead of other consumer products for several reasons. First, because composing sound for cars encompasses a wide range of rhetorical and compositional practices, it is possible to apply many of these practices to other sonic consumer products (i.e. any product that employs sound as a salient feature in its overall design). Indeed, product designers often emulate sonic design practices in the car industry as a means to create more holistic sensory experiences for their own products. As I will demonstrate, the sonic composing and multimodal listening practices associated with cars provide a productive framework from which to build and develop sonic design practices that can be employed more universally.

Second, cars are an interesting consumer product to examine in relation to rhetoric and composition because the listening and composing practices of drivers offer a powerful example of the kinds of multimodal composing practices that people use in everyday settings. Cars enable drivers to manipulate and compose their sonic environments and to use their cars as modes of sonic composition by projecting sound into the places they travel through. Drivers adopt many of same multimodal listening and composing practices as automotive acoustic engineers—practices that require attending to the material and sensory features that shape and are shaped by sound. Drawing attention to the everyday forms of multimodal composition practiced by drivers will contribute to the expansive, supple approach to “composition” and “multimodality” that I have been arguing for throughout this dissertation.

Third, cars involve a more explicitly multimodal, full-bodied experience than most consumer products, thus making them ideal for examining body-centric listening and composing practices. Inhabiting the car is an extremely sensual experience. As Mimi Sheller writes, “The feel of the car both inside and outside, moving or stationary, sensuously shapes and materially projects how motorists feel not only about cars but also about themselves and within themselves” (225). Physical engagement with cars, particularly their sonic aspects, shapes the overall experience of driving. For instance, Roland Barthes comments on the salience of the body in car experience, specifically highlighting the body’s connection to sound. In his essay on the Citroën, Barthes notes,

Human bodies physically respond to the thrum of an engine, the gentle glide through a gearbox, or the whoosh of effortless acceleration, and in some cases the driver becomes ‘one’ with the car...Some feel content with a smooth and silent ride (historically aligned with ideas of luxury, privilege, and wealth), others prefer an all-wheel drive that shakes

the bones and fills the nostrils with diesel and engine oil (historically aligned with ideas of adventure, masculinity, and challenge). (Sheller 228)

Barthes' comments are telling in that this sensual, bodily experience is not merely a corollary of driving, but an intentionally stylized, designed, *composed* experience. The design of the car—including its deliberate effects/affects on the bodies of drivers—is directly associated with the ideas that are used to attract particular buyers (i.e. silence and smoothness are car features that connote ideas about luxury, which could lure in buyers that want to project an image of wealth). Composing and selling car experience is inseparable from the bodily experience of cars.

Automotive acoustic engineers must consider how sound affects the bodies of drivers, as well as how sound works with and against other sensory modes and materials (visual, tactile, etc.) to produce an overall effect. The kind of experiential, full-bodied sonic composition that is practiced in a car context illustrates that multimodal listening and sonic composing are inextricable—that multimodal listening is not a passive form of reception, but rather a practice that must be actively performed during the design and production of multimodal experience writ large. I contend that asking students to adopt these kinds of explicitly embodied, experiential practices can help them refine their own sonic composing and multimodal listening practices and enhance their understanding of how sound works as a dynamic mode of composition in a range of products/experiences.

Teaching students to engage with the world outside of the academy—to be thoughtful consumers of the sonic products/experiences that they encounter in their everyday lives—will add relevance and exigency to the practices that they cultivate in multimodal composition classrooms. Further, adopting this pedagogy will help to debunk the notion that multimodality or multimodal composition is an exclusively computer-based practice. As I have argued in previous

chapters, students of multimodal composition need to be taught to engage critically with everyday sonic experiences in order to gain a more expansive sense of how sound works in different contexts (not just digital ones). While this chapter focuses on the sonic experiences of cars and other kinds of consumer products, its purpose is not only to provide strategies that will protect students from getting duped by manufacturers and advertising agencies that rely on sound as a persuasive force (what Wayne Booth might call the “rhetrickery” of sound) (Booth 129). In addition, my aim is to propose some creative ways to teach students of multimodal composition how to *participate* in “experience society” via designing and composing multimodal products/experiences (Cleophas and Bijsterveld 118). The approach to multimodal composition that I offer here is intended to 1) make students more savvy consumers *and* producers of sound in relation to consumer products; 2) help students cultivate multimodal listening practices that involve attending to how sound works with and against other sensory modes and materials; and 3) give students the opportunity to explore and reflect on how the body figures into and shapes multimodal experience.

In the first section of the chapter, I examine the sonic composing and multimodal listening practices employed by automotive acoustic engineers. These practices have much in common with the practices that are taught in typical composition courses. For instance, sonic composing and multimodal listening practices in a car context involve considerations of audience, style, rhetorical effects, and revision techniques. What automotive acoustic engineers’ listening and composing practices *add* to these standard features of the composing process is an explicitly physical, experiential dimension. It is this thoroughly embodied relationship with sonic composing that I argue can enhance and expand the ways that sonic composition is practiced in the multimodal composition classroom. Additionally, I explore the multimodal listening and

sonic composing practices associated with cars from the perspective of the consumer. I illustrate the ways that drivers employ many of the same practices as automotive acoustic engineers in order to construct particular kinds of experiences. In doing so, I amplify how familiar, everyday sonic experiences can be viewed as dynamic forms of multimodal composition.

In the second section of the chapter, I show how the sonic composing and multimodal listening practices that are associated with cars can be applied to sonic products/experiences more broadly. I give a concrete example of how these practices could be put to use in the multimodal composition classroom by presenting a detailed assignment sequence that asks students to analyze and compose their own sonic products with a mix of modes and materials (digital and non-digital). After each assignment, I provide commentary that discusses its design, value, and purpose. My hope is that this assignment sequence will inspire teachers of multimodal composition to take a more experiential, body-centric approach to sonic composing in their classrooms.

## **I. Sounding Cars**

Cars are designed to look and feel comfortable and luxurious. They are intended to be an extension of one's home—"a living room on wheels"—and sound is an especially important feature in the production of "home-like" car environments (Urry 23). As Michael Bull writes, "The interior 'soundscape' of the automobile can produce feelings of protectedness, security, and confidence in a manner that the physicality of the automobile or the visual aspect of automobility tends not to do on its own" (89). The car seals off (or at least muffles) the sounds of the outside world, thus giving drivers a sense of sonic privacy that is often associated with domestic environments. Automotive manufacturers are well aware of the fundamental role of sound in car

experience, and they dedicate a massive amount of money and resources to ensure that their cars' sounds are designed and composed appropriately. Acoustic engineers comprise a substantial portion of the automotive work force, and over time these engineers have developed effective sonic composing and multimodal listening practices.<sup>41</sup> Below I examine the primary sonic composing and multimodal listening practices employed by automotive acoustic engineers. These interrelated sonic practices contribute to the design and composition of holistic, multimodal car experiences.

Manipulating sounds for target audiences is one of the most basic practices involved in the composition of car sounds. Automotive acoustic engineers go to great lengths to make sure that the sounds they produce are geared toward specific drivers. As Cleophas and Bijsterveld write,

Since the late 1990s, leading automobile manufacturers have advertised the sonic qualities and interior tranquility of their vehicles with increasing fervor...Indeed, manufacturers have invested considerable time and money in making sure that switches, warning signals, direction indicators, windshield wipers, the opening of car windows, the locking of car doors, or the crackle of the leather upholstery come with the *right* sound.  
(103)

“Right” sounds, in this case, are called “target sounds” (103). Much like writers tweak their work for specific (“target”) audiences, automotive acoustic engineers fine-tune sounds to appeal to particular buyers. For example, “sporty” sounds such as a loud, growling engine are designed to attract certain demographics—usually young and middle-aged men—while “safe” sounds like

---

<sup>41</sup> As Cleophas and Bijsterveld note, “BMW employs more than 150 acoustical engineers, and Ford has an acoustical department of 200 employees” (103). As cars become more sonically complex, these numbers will most likely increase.

seat belts that click loudly into place and door locks that “produce a reassuring solid sound” might be aimed at car buyers with young children (103). As is the case with most forms of composition, understanding the needs and desires of target audiences is a fundamental part of the process of composing sound for cars.

Creating target sounds for target audiences also requires automotive acoustic engineers to come up with a precise language to describe sounds that are intended to represent certain adjectives. For instance, they need to consider questions such as, how does one describe a “sporty” or “safe” sound and what kind of techniques might be used to manipulate sounds to represent these adjectives? (Cleophas and Bijsterveld 109). Inventing a descriptive sonic vocabulary—which might be based on language used by test subjects, market research, and/or the general consensus of the acoustic engineering team—is a difficult but necessary task that promotes a kind of functional communication during the sonic composing process. In order to determine whether or not a sound needs to be manipulated further to fit a particular adjective, acoustic engineers must perform an iterative cycle of composing, listening, and discussing until they achieve the results they are after; revision is a constant practice during every step of the design and production of car sounds.

Developing a consistent sonic style is another key practice of automotive acoustic engineers. Like authors who have written a series of distinct articles or books in a similar (perhaps signature) style, automotive acoustic engineers design the sounds of cars to reflect distinct sonic styles that represent the overall identity of the company. Just as cars have a certain “look” or visual style, they have a highly stylized sound. For instance, though a Ford Explorer may sound slightly different from a Ford Focus, they are merely variations of the same sonic style or identity that Ford has created for itself. In other words, it is possible to distinguish the

sound of Ford vehicles from the sound of BMWs or Audis or Volvos. The practice of styling the sounds of cars and other consumer products is often referred to as “sonic branding” (the sonic equivalent to a visual logo)—a technique that the car industry has embraced with enthusiasm. As Bijsterveld muses, “Car makers even believe the sound of engine and exhaust to be critical for their make’s image: ‘One vrrm is not quite another’” (201). Sonic style plays a critical role in the rhetoricity of car sounds, or the ways that car sounds attract and persuade particular consumers. Thus, car manufacturers put an extraordinary amount of effort into developing the “right” sounds for their brand.

Automotive acoustic engineers’ sonic branding practices require attending to and manipulating individual sounds *and* to how all of the individual sounds work with and against each other to produce an overall effect. Similar to the practices used to design sounds for specific audiences, this kind of sonic production involves repetitive cycles of composing, listening, and discussing that ultimately inform the acoustic engineers’ revision strategies. The process of balancing and integrating sounds is becoming imperative as cars are becoming more sonically complex. For example, after interviewing a Ford employee, Bijsterveld concludes that the holistic sonic composition of cars will become an increasingly important job for automotive acoustic engineers, even as future drivers (seemingly) acquire more sonic control:

In the ideal world of this Ford sound engineer, future Ford customers would be able to upload a series of car sounds (for the turn signals, seat-belt warning, windshield wiper, and so on) of their choice, just like uploading a ringtone for a cell phone. Yet, and this was a crucial twist, this option should be available to the customers only after the Ford sound engineers had created a full ‘sound composition’ in which all of the sounds would be typically Ford and go together extremely well. (116)

Like the individual ideas that contribute to a writer's overall theme or argument, the individual sounds of cars are arranged and manipulated in order to make them flow together in a cohesive way. Though this example focuses on a future possibility for the sonic design of cars, synthesizing car sounds is already an established practice of automotive acoustic engineers. In a process that is both highly technical and creative, engineers manipulate and integrate sounds to compose a total sonic experience.

Thus far, I have been emphasizing connections between more familiar kinds of composing practices and the sonic practices of automotive acoustic engineers. However, there are some acoustic engineering practices that, with few exceptions,<sup>42</sup> do not have direct parallels in rhetoric and composition. I am referring specifically to automotive acoustic engineers' attention to the material and sensory features of composing via physical, bodily engagement. Composing sounds for cars is a process that requires a consideration of the *entire network of material and sensory elements* that make up the car.<sup>43</sup> In order to produce complex sonic compositions, it is necessary to attend to more than just the sounds themselves. As Blesser and Salter explain, "The automobile manufacturer, by controlling the properties of the interior, can treat aural design as a complete system—positioning the seats, orienting the windows, selecting the presentation format, mounting the loudspeakers, designing the acoustics, and adding signal

---

<sup>42</sup> Jody Shipka's work on multimodal composition pedagogy, which I feature in the last section of this chapter, is one of the few exceptions. Shipka treats multimodal composing as a fully sensory, physical event.

<sup>43</sup> As Brandon LaBelle notes, there is a whole industry that is based on car sound and the sonic experience of driving. For instance, in order to prevent noisy experiences on the road and in the soundscapes that cars pass through, "silent asphalt," or a rubberized material that diminishes "environmental noise created by the car itself," was invented (144-145). LaBelle also mentions the construction of "sound walls" which are used to shield homes and businesses from traffic noises by deflecting sound in the opposite direction (145). As these examples illustrate, the relationship between cars and sonic experience depends on a disparate network of material and sensory elements, some of which are completely unrelated to the production of the car itself.

processing” (192). The various ways that sound functions in a car are contingent upon material features that may seem to have nothing to do with sound, including how much metal or glass is incorporated into the car’s design, and even where the seats are positioned in relation to the speakers. All of these things will affect how drivers experience sound. To figure out how and to what degree material and sensory elements will influence the sonic aspects of cars, automotive acoustic engineers rely on multimodal listening practices. Much like Evelyn Glennie and the acoustic designers I discussed in previous chapters, automotive acoustic engineers attend to the bodily, synesthetic aspects of sonic interactions—to the ways in which multiple sensory modes, particularly sight, sound, and touch, work together during sonic encounters. In turn, these multimodal listening practices inform acoustic engineers’ decisions about the manipulation of various material and sensory features during the sonic composing process.

OBELICS (“Objective Evaluation of Interior Car Sound”), a research project funded by the European Union in the late 1990s, exemplifies the significant role that multimodal listening practices play in the composing processes of automotive acoustic engineers (Cleophas and Bijsterveld 109). The goals of the project “were to understand the subjective evaluation of car sound...to establish ‘methods and tools for an objective evaluation’ of automotive sound, and to define ‘target sounds for different driving situations’” (109). What I find most fascinating about the OBELICS experiments is their reliance on bodily engagement with multiple senses and materials. As opposed to asking people what they thought about different sounds, OBELICS engineers developed car simulation experiments that emphasized sonic experience as a multimodal event. According to Cleophas and Bijsterveld,

This [car simulation] system, as the firm claims in its advertising, ‘accurately and interactively simulates different driving situations. In a driving simulator it creates not

only engine, tire, wind, and other vehicle or background sounds but also structure-borne sound in the form of vibration. Instead of being passive recipients of car sounds, the test subjects were now expected to interact with the setting. The headphones or speakers would produce new sounds only when the test driver acted, such as by shifting gears or putting on a turn signal. (111)

Test subjects' sonic experiences involved physical, multimodal interactions with sound via engaging with the interrelated visual, sonic, and tactile features of the car. Automotive acoustic engineers then made revisions to the sonic design of the car based on subjects' experiences by physically engaging with car sounds themselves, attending to how sound is affected by the material and sensory features of the car. As this example makes clear, the task of automotive acoustic engineers is not merely to design sounds, but to compose immersive, multimodal experiences—a practice that relies on multimodal listening practices.

In addition to using multimodal listening and sonic composing practices to *enhance* the effects of a car's sensory environment, automotive acoustic engineers employ these practices to *diminish* a car's sensory environment. As Urry notes, "The car is a room in which the senses are necessarily impoverished" (23). In other words, if drivers could feel the full impact of the external environment (i.e. the tires making contact with the road) or internal elements (i.e. the engine, brakes, etc.), driving would be an uncomfortable physical experience. Moreover, it would be a tremendously *noisy* experience. During the second half of the 1930s, around the same time that insulation and sound-proofing were becoming popular in the field of acoustic design, car manufacturers started using sound-absorbing materials to control (diminish) internal and external car noise. As noise was perceived as a social problem associated with the industrial

revolution, a need to rethink the sonic design of the car emerged.<sup>44</sup> Bijsterveld writes, “protests against urban traffic noise reached such intensity that making cars more silent became a goal in its own right...Several engineers knew that the use of leather and felt could absorb car noise, which is generally low frequency and quite easily carried via all the metal and wood in cars” (195).<sup>45</sup> From the 1930s on the materials used to build cars have been a central component in their sonic composition. If automotive acoustic engineers determine that there is too much felt vibration, for instance, they might add more sound-absorbing materials to car seats or floors. The ways that engineers amplify and/or diminish sound via manipulating material elements shape drivers’ overall sensory experience of the car.

The sonic composing and multimodal listening practices that I have pointed out in this section illustrate that the job of automotive acoustic engineers is to use sound to produce holistic multimodal experiences. In order to create such experiences, these engineers use explicitly embodied techniques that involve the manipulation of the sensory and material environment.

---

<sup>44</sup> Changes in sonic design practices are often a result of larger social changes in the perception of sound. For example, in the 1920s and 1930s, cars were much noisier than they are today. However, during that time period, the noise was associated with fun and adventure, as well as masculinity (drivers were mostly male at that time). Noise was also a matter of function—particular noises would alert drivers that their car was in need of maintenance. However, by the mid-1960s, as Bijsterveld writes, “listening to the car’s sounds and noises was no longer seen as functional but as a nuisance...motorists, by means of a burgeoning car literature, were taught a new auditory culture. They were supposed to listen to their car radio to keep up their spirits; the various sounds and noises of the car’s functioning no longer mattered” (200). Thus, the car radio became the most important car sound of the time, and as a result automotive acoustic engineers had to find ways to quiet the rest of the car. The meaning and perception of particular car sounds change and evolve, which affects sonic design practices in the auto industry.

<sup>45</sup> In this sense, driving a car is similar to the impoverished contemporary sonic experiences I have been describing throughout my dissertation (listening to an iPod, listening to or composing with sound on computers, etc.). As Urry puts it, “Sights, sounds, tastes, temperatures, and smells get reduced to the two-dimensional view through the car windscreen and through the rear mirror, the sensing of the world through the screen being the dominant mode of contemporary dwelling” (23). While drivers have the ability to control sound in this environment, much of the car’s sound has been diminished by acoustic engineers. For the driver, the car becomes another computer: a highly controllable interface that makes it impossible to feel the full vibratory impact of sound.

Interestingly, these embodied listening and composing techniques are often employed by drivers as well, whether they are conscious of it or not. Taking a closer look at some of the listening and composing practices that drivers share with automotive acoustic engineers will illuminate how cars enable a dynamic form of multimodal composition in everyday life.

### *Drivers as Acoustic Engineers*

Because automotive acoustic designers intentionally produce flexible, compose-able sonic environments, drivers have the ability to create customized soundscapes that can be adjusted at will. Unlike most visual and tactile features of cars that cannot be changed after purchase, drivers can continuously manipulate car sound in order to produce their preferred sensory experience. This is a practice that Bijsterveld calls “techno-cocooning,” or “the use of technology for creating sensory privacy, or individual control over the sensory stimuli that enter a particular space” (192).<sup>46</sup> Many drivers use “techno-cocooning” practices as a creative mode of sonic composition (192). For example, drivers often employ sound to create or enhance certain feelings. Bull notes, “Drivers are increasingly able to co-ordinate the soundscape of the automobile to match their mood or their journey. The automobile becomes a perfect listening booth for drivers, who thus deny the contingency involved in their traversal of these routine spaces and times of daily life” (102). Drivers are able to treat their cars as a private sonic escape much like the personal soundscaping devices—iPods, noise-canceling headphones—I described in the last chapter. However, the difference in using the car as a personal soundscaping device is

---

<sup>46</sup> It is no coincidence that the purchase of cars started to gain popularity at a time when there was an influx of other technologies that allowed consumers to create private aural experiences for themselves. As Bull writes, “Significantly, the beginnings of mass ownership of the automobile in the 1920s were also co-terminus with the growth of many domestic media of cultural reception—the radio, the gramophone, and the telephone” (91).

the control drivers have over the environment surrounding them. Cars enable drivers to heighten their experiences through both the manipulation of sound *and* the manipulation of the physical, sensory environment of the car. Actions like regulating the temperature, adjusting the position of the seats, or adding decorative seat covers help to sync the visual and tactile features of the car with the overall mood/ambiance drivers are attempting to design through sound.

To get a better sense of cars as a highly controlled form of personal soundscaping, consider the relationship between drivers and iPod users. Like iPod users, many drivers create playlists before they leave to set the “right” tone for their trip. These songs may be based on the landscapes drivers pass through, the people they will be driving with, or the purpose of the trip itself. In fact, many people have described both the iPod and the car as a kind of filmic experience in which the soundtrack colors and exaggerates their feelings as they move through banal spaces (see Bull’s *Sound Moves*, Dylan Jones’ *iPod, Therefore I Am*, and Steven Levy’s *The Perfect Thing?*). However, the major difference between iPod users on foot and drivers who use music to creative ends is that the acoustic cocoon composed by the driver is doubly reinforced by the material structure of the car (Bull 101). Whereas iPod users walking through the wintry streets cannot control the environmental elements around them, drivers can crank up the heat in a snowstorm and listen to songs that remind them of the beach. The car provides listeners with more control of their overall bodily, multimodal experience than iPods. Similar to automotive acoustic engineers, drivers develop a bodily awareness of how sound works in conjunction with other sensory and material elements, and then manipulate those elements to create a desirable car experience.

Some drivers choose to take full advantage of the tactile affordances of sound in cars, using vibration to heighten their embodied experiences. For example, Bull mentions how

Nathan, one of the interviewees featured in *Sound Moves*, installed a twenty-two speaker sound system in his car because he enjoys feeling sound. The way that Nathan chooses to make use of the speakers during a drive has a noticeable (and severe) effect on his body. When the speakers are at full capacity, he states, “After a time I have to stop the car and get out. I lean against the car, as I can’t stand properly. My legs are limp and it takes a few minutes for me to regain the equilibrium of my body” (Bull 102). This extreme example brings the relationship between sound and the body into sharp relief. As Bull explains, “Nathan’s body is affected by the volume of and intensity of the sound to such an extent that he can no longer stand. In North America Nathan’s automobile would be referred to as a ‘boom car’, the interior louder than that of a typical clubbing interior, 130db. Music that loud can be heard up to 100 metres outside the car with its windows shut!” (102). Nathan prefers having intense, tactile interactions with sound, and thus he designs a sonic environment that allows him to achieve this particular physical experience. He determines when and how to adjust the sound (and other material/sensory features) of the car via multimodal listening practices, or attending to the various ways that his body is affected by sound. While Nathan recreates a club-like sonic environment<sup>47</sup> in his car to amplify the tactile experience of sound in his body, this booming sound also transforms the soundscapes that he is driving through; his felt beats leak out into the streets. In this way, his car serves as both a compose-able space and as a mobile mode of sonic composition.

---

<sup>47</sup> Though creating a car soundscape that is loud enough to disrupt one’s equilibrium may not be everyone’s cup of tea, now more than any other time in history it is possible to design the total sensory experience in one’s car. In fact, some cars basically do this for you. For instance, the Toyota “Pod” is a car that includes “an elaborate system of IT sensing devices, the Pod operates as a living organism, replete with decorative exterior lighting that registers different ‘moods’ at a driver’s command” (LaBelle 158). Cars, then, are not only a home away from home, but technologies that are being used to recreate other kinds of place-based experiences.

Nathan is clearly concerned with the sound-driven sensory experience he is creating inside of his car. However, drivers also have the option of directing the sounds of cars at external audiences. In fact, there are drivers who use car sound—particularly bass systems—to compose and project specific sonic meanings into the soundscapes they move through. Like Nathan, these drivers rely heavily on the tactile affordances of sound. As Brandon LaBelle writes, cars can have “a deep bass that is more tactile than sonorous: the automobile is a conducting mechanism that, when fitted with 15-inch sub-woofers in its trunk—itsself a resonating chamber—may produce frequencies ranging below 20Hz and decibels well above legal limits” (149). In addition to amplifying the felt engagement with sound for their own pleasure, then, drivers who participate in what LaBelle calls “bass culture” choose to create a meaningful vibratory presence in the neighborhoods they cruise around (149). In his examination of bass cultures in southern California, for example, LaBelle argues that projecting the bass from one’s vehicle can serve as a mode of attention grabbing, territorial marking, an act of aggression, and/or a racialized statement that emanates “cultural energy to cohere group identity” (155). He writes,

The rumble of bass and beat, which are mostly felt and heard as surprising vibrations, as sound pressure and oscillating wave, as throb, function as part of the identity of the car and its driver or the crew... To drive is to project oneself. Sound and music dramatically support this projected embodiment, marking the street as a space of transformative amplification. (160)

To a much greater degree than other consumer products, the car makes it possible to project sound and make people feel that sound via intense vibration. The visual aspects of the car—like the bouncing low-riders that have become a staple in rap videos—play a role in shaping the sonic experience of onlookers. However, the bass of the car is often heard and felt even before it can

be seen—thus creating a powerful presence without visual confirmation. As Ralph Cintron writes, low riders, or what are called “thumpers” in the Mexican-American context he examines, are “a brilliant extension of the self’s ability to occupy space because the special signifier of the thumper [in this neighborhood] was its domination of a plane beyond the visual, that of sound space” (115). Bass serves as a way to fill or occupy space, to project a physical presence, through sound. In bass culture, the rhetoricity of sound works at the level of the body to persuade people to feel fear, power, anger, or a sense of community, depending on the relationship between the driver and the audience that the bass is able to reach.

Like automotive acoustic engineers, the drivers of bass cars attend to their own and others’ embodied experiences with sound and manipulate the material and sensory aspects of cars according to the effects that they want to achieve. Though it is beyond the scope of my project, it is also important to acknowledge that the uses and meanings of sound in cars are connected to race, class, gender, and cultural context. For instance, the bass blasting from a car full of young Latino men riding around in a low-income neighborhood could have a very different meaning than the bass blasting from a car full of young white girls and boys in a middle-class suburb (which, depending on the audience, may be understood as an act of mocking or imitating the uses of bass in other racial and cultural contexts). Similarly, buying a nice car that makes it possible to create a luxurious environment via controlling sound and other material/sensory features requires a significant amount of money. Thus, the various kinds of sonic composing practices in cars are not accessible or effective for every driver in every context. What I find most relevant about driving experiences for this project, however, is that the diverse sonic composing practices used by drivers all require some amount of attention to the embodied, sensory, and material aspects of sonic experience. The practices associated with both

the production and consumption of cars amplifies the key role of embodied engagement in the design of sonic experiences.

## **II. Designing Sonic Products: Multimodal Experience and Body-Centric Pedagogy**

I chose to focus on the car in the previous section because of its unique qualities and affordances as a consumer product. However, the success of sound design in the car industry has had a major influence on product design writ large. Automotive acoustic engineers' treatment of sound as part of a holistic, engaging sensory experience set the standard for how other product designers could increase the value and sophistication of their products (Özcan and Egmond). Until recently, designers of everyday products were concerned only with how sound could enhance the function of a product (i.e. the beep an oven makes to indicate that it has reached the appropriate temperature) (Robare). In contrast to this practical approach to sound, product designers of everything from potato chips to floor-cleaning robots are now taking a cue from the car industry by using sound as an integral part of design work.

General Electric, for instance, is currently revamping the sounds for its entire line of products. Kyle VanHemert reports, "Instead of voicing all its next-gen dryers and dishwashers with the same beeps and boops, GE's trying to distinguish its four appliance brands by giving them each their own unique sonic palette, culled from a fully realized, brand-specific product" (VanHemert). These sonic palettes range from happy and carefree (heavy woodwind sounds targeted at refined upper-class consumers) to fun and energetic (distorted guitar sounds targeted at young adults). These sounds do much more than target specific demographics; they are designed to incite feelings that contribute to an overall experience. Visual and tactile features still figure into the design in significant ways too. But, since the visual features of these products

are becoming more minimal and modern, designers are relying more on sound to shape consumer experiences. Head designer David Bingham had this to say about the line of GE products that features a soundtrack with “a driving, woodwind-heavy affair”: “It’s got this nice, bouncing cadence that feels upbeat...It gives this sense of someone looking off in profile, with their hair in the wind” (VanHemert). Bingham explains that his team was trying to evoke “the happy feeling of driving with the windows down, off into a nice sunny day” (VanHemert). The idea is that this meticulously designed sonic experience will create a positive sensory and emotional connection between the appliance and the consumer. To an extent, consumers of appliances will be able to customize the soundscapes in their kitchens as they do in their cars.

Attention to how sound works with or against the overall product experience is a primary concern for designers of consumer products. As Byron notes, there are real consequences when sound is not integrated successfully into products (Byron). A recent sonic debacle at Frito-Lay is a case in point. In an attempt to make its SunChips brand more environmentally friendly, Frito-Lay “introduced a compostable chip bag in 2010. Consumers found it noisy and complained. Sales fell, and Frito-Lay eventually went back to the old bags. ‘The packaging of the product is a multisensory experience for our consumers,’ says a Frito-Lay spokesman” (Byron). Like many chip companies, Frito-Lay is conscious of how the shape, texture, and crunch of their chips contributes to consumers’ pleasurable experience with the product. However, overlooking the sound and feel of the bag turned out to be a disastrous mistake that resulted in a financial loss. As this example makes clear, the strategic use and integration of sounds is critical in product design.<sup>48</sup>

---

<sup>48</sup> Diminishing the effects of sound is also a key strategy used by product designers. For example, a feminine hygiene product called “Tampax Radiant” was designed with a textured wrapper that prevents

Though designing sound for cars is in many ways different from designing sound for other consumer products, the shared goal of using sound to create holistic experiences requires the same general sonic composing and multimodal listening practices—practices that involve attending to *audience, style, rhetorical effects, the ways that individual sounds work with and against each other, the integration of sound with other sensory modes and materials, the enhancement and diminishment of sensory experience*, and most importantly, *bodily experience*. I believe that these practices provide an excellent foundation for teaching students about the dynamic ways that sound can be used to compose multimodal experiences.

Because designing holistic sensory experiences has become a top priority for product designers, manufacturers, and marketing firms, it is important to help students cultivate practices that will enable them to analyze and produce (as opposed to merely consume) the kinds of immersive multimodal experiences that they encounter in everyday life. In order to teach students how sound works as an integral part of designing and constructing multimodal products/experiences writ large, teachers need to take a more expansive, materially diverse approach to sonic composition. Below I offer an assignment sequence that attempts to incorporate such an approach into multimodal composition. I developed this assignment sequence as a way to explore how the sonic composing and multimodal listening practices that are critical to product design might be creatively integrated into the multimodal composition classroom. This sequence consists of two main projects and an accompanying in-class exercise. After describing each assignment in the form of a student handout, I provide commentary that addresses the assignment’s design, value, and purpose.

---

loud crumpling noises. As Byron notes, “The wrapper is targeted at women, especially teens, who say that they want more privacy in public restrooms” (Byron).

## ASSIGNMENT A: EXPERIENTIAL ANALYSIS OF SONIC PRODUCT

*Goal:* The aim of this assignment is to get you to start thinking about sound not as an isolated composing material, but as a mode of composition that is always shaped by and connected to other sensory modes and composing materials. By focusing on the role of the body and senses in listening and composing processes, this project will give you an opportunity to hone the multimodal listening and composing practices we have been working on this semester.

***DUE DATE: X***

***STEP 1: CHOOSE A SONIC PRODUCT.*** With your team (of 3 or 4), choose a sonic product found in an everyday context. The sonic product you choose needs to meet the following guidelines:

- 1) The sonic product must be a consumer item, or something that is currently available for sale (a blender, a vacuum cleaner, a phone, a toy, a videogame, etc.)
- 2) Your entire team must be able to interact with the sonic product (everyone must have access to it)
- 3) Because your team will be giving a presentation on the sonic product, you will need to bring it to class to show us how it works. If your product is too large to bring into class, you may bring in a video of your team interacting with it.

The most interesting analyses will come from interacting with products that are sonically complex. In other words, if you choose a toy that only makes one kind of sound, it will be difficult to come up with things to say about it. Try to choose a product that has multiple sonic functions—one in which sound plays an integral role in the overall experience of the product.

The idea here is not to make you go out and spend money to buy a new product (please don't!). Rather, get creative and use the resources you already have. What sonic products in your dorm room might you examine? What items that your friends or parents have might work? Your team will need to come up with **at least 2 ideas** for your sonic product by the start of the next class.

## ***STEP 2: EXPERIMENTATION AND ANALYSIS***

With your team, spend some time playing with your sonic product (outside of class). Pay particular attention to your bodily, sensory experience with the product and take notes about your interaction. After discussing your individual and collective experiences, your team will need to collaboratively write a product analysis that is focused on sound (2-3 double-spaced pages). You may use the following questions to help guide your writing:

- How do the sounds make you feel physically? What senses do these sounds appeal to? Does the product make it possible to *feel* or *see* sound?
- Do you associate any particular emotions or other meanings with the sounds?
- If there are multiple sounds, do you feel that they work well together? Why or why not?
- How does the sound contribute to the product as an experience? What are the affordances, or the various possibilities and uses, of sound in this product? What are the limitations?
- How does the sound work with other aspects of the product (visual, tactile, olfactory, etc.)? How would you describe this product as a multimodal composition?
- In what ways is the product persuasive (or not)? In other words, does the sensory experience of the product persuade you to feel or behave in a particular way?
- Is the use of sound purposeful and appropriate for this product?
- How would you describe the product as an experience?
- What kind of consumer do you think the designers of this product are trying to target? How do you know?
- What else did your team experience, observe, and/or conclude?

## ***STEP 3: PRESENTATION***

After your team completes the written analysis, you will need to prepare a presentation of your sonic product and your findings. Your team's presentation should include a brief demonstration of how the sonic product works by actually interacting with it in front of the class. Then, each team member should discuss some aspects of the collaborative analysis (you may divide up the information in any way you see fit). The total presentation, including questions, should be ***at least 10 minutes and no longer than 15 minutes.***

### *Commentary on Assignment A*

This initial assignment is part of my ongoing effort to provide students with an expansive, relevant conception of composition—a conception that includes but goes beyond textual writing and composing via computers. I created this assignment as a way to get students to consider how the modes of analysis that they are already familiar with from the composition classroom might apply to other products/experiences in their everyday lives. Ideally, since this assignment is intended to build on multimodal composing and listening practices that students have already been working on, the project would be assigned near the middle or end of the semester. It is also important to spend time framing this assignment by talking about and/or having students read about sound, composition, and product design. For instance, selecting from the books and articles on sound and cars that I have used throughout this chapter could serve as an excellent and very accessible foundation to prepare students for the kinds of ideas and questions that they will encounter in this assignment. One might also choose from the array of scholarship and news articles about sonic branding practices. There is plenty of information about sonic design that would provide a great way to lead into the assignment.<sup>49</sup>

In terms of the assignment’s design, I wanted embodied experience to play a central role. As my discussions of automotive acoustic engineering and drivers illustrated, embodied experience is a crucial part of understanding and employing sound as a dynamic mode of multimodal experience. Thus, this assignment is first and foremost dependent on bodily, sensory interaction. In rhetoric and composition (and many other academic fields), “analysis” is often associated with taking an objective/removed stance or studying the object (text, film,

---

<sup>49</sup> In particular, I would recommend assigning “GE’s New Emphasis In Appliances: Sound Design” (VanHemert). This piece outlines the process of designing sound for various kinds of appliances and provides links to other articles and podcasts on similar topics.

photograph, etc.) from a distance. Even analyzing a website or a multimodal text by clicking through it or playing audio and video clips results in a diminished sensory experience/interaction; the computer screen acts as a shield (much like the windshield of a car) that prevents a certain level of physical engagement with the objects being analyzed. In other words, there is still a degree of bodily abstraction involved in this slightly more interactive type of analysis. Rather than having students think about an object in an abstract way, this assignment begins with students' bodily, sensory experiences with sonic products. Based on these explicitly embodied interactions, students then address questions about the function and meaning of the sonic product. In short, this assignment teaches students to think through and with their bodies, which is a fundamental part of developing the kinds of multimodal listening and sonic composing practices that can help them approach any sonic experience in a thoughtful, sensitive way.

Finally, this project serves several purposes. First, asking students to think about how sound works in relation to other sensory modes and materials is a way of introducing them to multimodal composition as a practice that involves designing a total sensory experience. Developing an understanding of the role of sound in holistic experiences can help students become more savvy consumers and producers of sonic/multimodal products. Second, this project heightens students' awareness of the sonic products that surround them everyday. Indeed, discussing the ways that sonic products can influence or persuade presents an opportunity to talk about the *rhetoricity of sound* with students. While the focus of this assignment is on sonic consumer products, the rhetoricity of sound is a concept that can be applied to a wide range of sonic experiences. Regardless of the context, understanding how sound works as a persuasive force is a crucial part of training students to become critical listeners and composers. Finally, the

third and most practical purpose of this project is that it asks students to engage with questions and develop practices that will be essential to the next assignment in the sequence: designing and composing a sonic product.

## **ASSIGNMENT B: DESIGNING AND COMPOSING A SONIC PRODUCT**

*Goal:* The aim of this assignment is to give you an opportunity to put the critical practices you developed in Assignment A to use by inventing and designing a sonic product of your own.

***DUE DATE: X***

### ***STEP 1: BRAINSTORMING***

Conduct a brainstorming session with your team in order to come up with a sonic product. This product could either be a totally new invention, or your team has the option of enhancing a sonic product that is already in existence (you might even choose a product that was presented to the class in Assignment A).

The only requirements for this product are: 1) it must be targeted at a specific audience, 2) it must use sound in purposeful, persuasive ways, 3) it must be interactive and include more than just sound (it must include visual and tactile elements, and if you want to get really creative, you could incorporate olfactory and/or gustatory elements as well). Once your team has decided on a product, you need to draw some initial sketches and write down ideas about the product's function (how does it work?), purpose (what's the point?), audience (who is it meant to appeal to?), and other ideas about its overall aesthetic design (how visual, tactile, sonic, and other elements work both separately and together).

I will give you a significant amount of class time to brainstorm and I will meet with each group during class to discuss your plans. However, you may want to schedule a meeting with your team

outside of class. I will also be available for additional meetings with teams that want or need more feedback.

### ***STEP 2: COMPOSE A PROTOTYPE & DESIGN THE SOUND FOR YOUR PRODUCT***

Once you have determined what kind of sonic product you want to design, then you will move on to the construction process. Your team will be required to create a rough prototype (or initial version) of your product. These prototypes do not have to be professional looking or fully functioning. For example, your team might create something out of cardboard or other found materials to make the product (roughly) the right size, shape, and color, and then explain what the actual materials are supposed to look like, feel like, and do at a later phase. The idea is to bring your concept to life in the best way you can given your team's knowledge and resources.

However, *the sounds that will be included in the product must be fully designed*. Your team will need to create and manipulate the sounds for your product in Audacity (or another audio editor of your choice). By create, I mean actually make and record your own sounds. We will be talking about options for recording and editing sounds in class.

*A few resources:*

This excellent guide to sound effects (<http://www.epicsound.com/sfx/index.php>) provides information about how to make particular sounds with everyday objects. Like straying from a recipe, feel free to diverge from the formulas given to you; add or subtract things, and come up with your own ideas. In other words, this resource is meant to provide inspiration rather than specific instructions.

The following videos might also be useful as you generate ideas about how to create particular sound effects. This two-part student documentary about sound design is full of creative ways to invent sounds.

Part 1: <http://www.youtube.com/watch?v=0h05HpTte3U>

Part 2: <http://www.youtube.com/watch?v=yOwaDzcgSnA&list=UU-LrQfxc-Y7HaQp68e1LJ8w&index=6&feature=plcp>

***STEP 3: ASSIGNMENT B1 [see below]***

On the day that your prototypes are due, we will be doing an in-class assignment regarding sound and language. You will receive detailed instructions during class.

***STEP 4: PEER FEEDBACK AND REVISION***

We will hold a group feedback session during class. Please **do not** begin revision on your product until you have received comments from your peers.

***STEP 5: ADVERTISEMENT***

Promoting your product is an important part of persuading and attracting target audiences. Your team's task is to create an appropriate and powerful advertisement for your sonic product. The form of this advertisement can be anything your team dreams up: print, video, radio, product packaging, etc. We will be workshoping ideas in class.

***STEP 6: PRESENTATIONS OF FINAL SONIC PRODUCTS***

Presentations must include a demonstration/detailed tour of your product that emphasizes its sonic features, the unveiling of your advertisement and a discussion of your product's target audience, and an overview of your team's multimodal composing process (take us through the steps of how you got to the final prototype). In addition, your team will need to address the following questions at some point in the presentation: What has your team learned about sonic composing and listening practices from this project? How did the language you used to describe sounds to your team enhance or hinder the composition process? What have you learned about the relationship between sound and language from this project? In what ways has this project changed your ideas about how to approach other kinds composition projects you have encountered in the classroom? In what ways has this project changed the way you think about or approach consumer products or experiences in everyday life? Your team's presentation should be ***20-25 minutes including questions.***

### *Commentary on Assignment B*

This assignment gives students a chance to design and produce the kinds of sonic products that they analyzed in Assignment A. Analysis alone (even body-centric analysis) does not provide students with the full range of experience that they need to learn how sound works as a mode of composition. Thus, the practices that students began to cultivate in the analysis phase of this assignment sequence need to be extended and developed through the process of *making*—the experimental and experiential design of products. In this project, I ask students to make a three-dimensional sonic product and to personally create the sounds that will be incorporated into their product. I chose to add this extra layer of making because it gives students more control over the sounds they want or need to design (as opposed to just using pre-made sound effects). Physically manipulating and experimenting with different materials to design their own sounds also provides students with another opportunity to reflect on the role of the body in sonic composing processes.

In addition to modeling this assignment on the practices of the automotive acoustic engineers and drivers I outlined above, my choice to center this assignment on experimental, experiential composition is based on what Jody Shipka has called a theory of “multimodal soundness” (355). In her own classroom, Shipka designs assignments that rely on this “activity-based multimodal theory of composing” that “offers students opportunities to engage in highly reflective, rigorous-productive play” (356 “Sound Engineering”). Employing a theory of multimodal soundness involves asking students to experiment with the rhetorical effects of sound in various contexts, to attend to how sound is integrated with other modes and materials, and to consider how their compositional choices influence the multimodal composition as a whole. As Shipka writes, a theory of multimodal soundness offers students

a more integrated (or sound) approach to multimodal production—one that *resists attempts to bracket off the individual senses* and the uptake of required/assigned semiotic resources for one that is both inclusive and robust enough to *allow us to examine the complex interplay that exists between the various modes, materials, methods, and technologies* students choose to take up (or that they may only imagine themselves taking up) in their work . (371, my emphasis)

Following Shipka, my assignment gives students a chance to experience and experiment with sound (via “rigorous-productive play”) during the process of multimodal composition. Students are also asked to reflect on how sound works with or against the other sensory modes and materials that they have chosen to use at various stages of the composing process. Because this assignment requires students to grapple with “the complex interplay that exists between the various modes, materials, methods, and technologies,” it provides them with a more fully embodied, multimodal composing task than an assignment that asks them to use a single mode for composing. This is not to say that assignments that depend on a single compositional mode are somehow monomodal. Rather, my point is that assignments based on multimodal soundness generate a greater number of rhetorical and compositional challenges and questions. For example, asking students to create a three-dimensional model of a sonic product forces them to physically engage with their compositions in order to figure out how sound (and its meaning) might be affected by various materials and other sensory modes. This level of hands-on interaction with the material aspects of a multimodal composition is not possible in digital environments. The sonic product assignment provides students with a more explicitly embodied, expansive approach to multimodal composing by giving them a chance to test out and produce immersive multimodal experiences that engage the senses in more holistic ways than exclusively

digital forms of composition.

The collaborative nature of this assignment is crucial. Putting students in teams requires them to invent and reflect on sonic practices and ways of talking about sound—much like automotive acoustic engineers and product designers—in order to help each other work effectively during the multimodal composing process. Additionally, teams allow students to pool their collective knowledge and resources, which is absolutely necessary in this assignment. Because the project draws on techniques from composition, marketing, design, art, and engineering, grouping students with different backgrounds and academic concentrations will help teams work collectively to accomplish this difficult task. I would recommend letting students stay in the same teams that they were in for Assignment A since they will have most likely begun to develop ways of working with and talking about sound that can be transferred to this new assignment.

I realize that having students build sonic products, which may seem quite odd or unfamiliar to teachers of composition, could be misconstrued as an “unserious” or “unintellectual” exercise. Indeed, Shipka faced similar problems when she implemented the theory of multimodal soundness in her own classroom. She explains,

Given the mixed reactions that my students’ work has received, I am cognizant of the challenges faced by those who support the production of texts that do not appear to look, function, or sound like the linear, print-based texts that are often associated with writing courses. In fact, of either of the sound-based texts featured later in this article, one might ask: ‘I grant you that the text makes sound, but is it also sound in the sense of being purposeful, rigorously crafted, or soundly constructed?’ (Or less tactfully put: ‘Is this really rigorous academic work, or are students just playing around? What, if anything, are

they learning about writing or composing? Is the theory supporting this work really sound?'). (356)

I draw attention to the double meaning of sound Shipka mentions here because it is something that I made sure to address in the design of my own assignment. Like Shipka, I have built in reflective exercises at each stage of this assignment that encourage students to consider their compositional and rhetorical practices. In other words, though this assignment may be strange, I would argue that it is both creatively challenging and intellectually sound. In addition, this assignment is purposeful because it enables students to experience first hand how multimodal listening and sonic composing practices are necessarily connected. Students must go through repetitive cycles of composing (literally putting together) and attending to how and why the sonic (and other sensory) aspects of their products affect the overall composition/experience. The assignment's focus on multimodal listening—whether the teacher decides to use that term or not—helps students see listening as a practical and creative communicative process that is connected to compositional and rhetorical practices.

Finally, as an extension of Assignment A this project puts the body at the center of multimodal inquiry and practice. While it requires students to use digital audio editors to manipulate sound, it also heightens students' bodily, sensory interactions with sound (and other modes) in ways that sonic composing in solely digital environments cannot. Thus, asking students to work with three-dimensional materials *and* digitally manipulated sounds is a good way to generate discussions about the affordances and limitations of various modes, materials, and composing contexts. Giving students the opportunity to engage with, compose, and reflect on holistic sensory experiences can heighten their sensitivity to the importance of the body in sonic experiences and in multimodal interactions more broadly.

## **ASSIGNMENT B1: DEVELOPING A CRITICAL SOUND VOCABULARY**

*Goal:* The aim of this in-class exercise is to develop a common sound vocabulary, or a critical way of talking about sound, that will enable your team to be more effective listeners and composers during the production process.

### ***STEP 1: SMALL GROUP DISCUSSION (20 min)***

Describing sound (especially sound that does not yet exist) can be a difficult task. With your team, discuss some of the problems (and solutions) you have encountered with language during the process of composing the first draft of your sonic product. For instance, how did you explain to team members what kinds of sonic effects you were trying to create? What words did you assign to particular sounds and sonic practices (in the invention, composition, and editing phases) and why? Were those words effective or not? Do you think the meaning of the words you used to describe sounds would be conveyed to others (outside of your group) when you presented the sounds to them? What is the value of language in sonic composition?

### ***STEP 2: FULL CLASS DISCUSSION (30 min)***

Each team will write their key terms and phrases on the board and share what they have been discussing with the class. If appropriate, you can play some of the sounds you have been talking about and attempting to describe in order to give the class a clearer sense of the issues your team has encountered.

### ***STEP 3: COMMON VOCABULARY (10 min)***

Based on what all of the teams had to say, we will talk about how our collective key terms and phrases might help us develop a more critical, practical way to discuss sound and sonic composing as we move ahead with product revisions.

## *Commentary on Assignment B1*

This exercise was born out of my own experience participating in collaborative sonic productions. On several occasions, I have worked as part of a small team of people to produce sonic compositions (podcasts, radio spots, creative projects), and each time we encountered difficulties coming up with an operational language to describe the ways that we wanted sounds to sound. As I began research for my dissertation, I realized that describing sound in precise ways was not just an isolated problem that my collaborators and I were having. Describing sound is hard because the English language is largely visual-centric. For instance, consider words common to academic or scholarly prose that students are used to seeing/hearing in educational settings, such as “illuminate,” “highlight,” “revise,” “reveal,” “uncover,” and “outline.” Because the English language lends itself to visual metaphors and descriptions, it is often tricky to articulate sound and sonic practices.<sup>50</sup> And yet, as I noted in my discussion of automotive acoustic engineers’ composing practices, language plays a fundamental role in the design and composition of sound, particularly in collaborative settings.

Knowing that it would be a struggle for students to talk about sound, I designed this assignment because it requires them to reflect on and refine the ways that they have been discussing sound during the production process. The aim of this exercise in describing and

---

<sup>50</sup> Recurring problems with the relationship between sound and language have been documented in different contexts throughout history. For example, Stefan Krebs’ examination of an automotive journal from 1928 that published the letters of drivers with concerns about technical problems revealed a pattern of difficulty when it came to translating sounds into language. These letter writers tried hard to describe sounds specifically, using adjectives such as “knocking, singing, howling, growling, ticking, hissing, and droning” (85). Some drivers relied on other sounds they were familiar with, “such as the chirps of a cricket” to try to be more precise. Despite drivers’ efforts to find the right language, their letters resulted in failed communication time after time. As Krebs notes, “Often the editors had difficulty making sense of the written accounts because motorists, despite the attempts to codify car sounds in handbooks and journals, shared no standardized vocabulary to describe their auditory experiences” (85). Clearly, creating a common language to communicate sonic experience is an important part of developing an understanding sound in various contexts.

evaluating linguistic representations of sound is to help students develop a working vocabulary that can make their sonic composing processes more generative and effective. Another significant aspect of this exercise is that it will inevitably expose the subjectivity involved in describing sound (one person's idea of a "bright" or "warm" sound might be much different from another person's). Though students may not agree about the language used to label a sound, being aware of this subjectivity is very important in the overall design of the sonic product. For instance, if a team disagrees about what a "motivational" sound sounds like, they can negotiate by manipulating the sound until it is close to what people agree upon, and then make sure that the other parts of the sonic product (visual, tactile, etc.) also reflect the "motivational" theme that they are trying to convey. In other words, disagreements over the language used to describe sounds could lead to considerations of how all of the modes and materials might be better balanced and integrated to reflect the product design goals.

Rather than bringing a "professional" or "expert" sound design vocabulary into the class, I designed this exercise so that students have to come up with their own vocabulary. My reasoning here has to do with context. As I have illustrated throughout my dissertation, sonic experiences are highly contextual. Thus, the language used to describe sonic engagement and production should be highly contextual as well; the language needs to be relevant to the situation at hand and reflect the knowledge base of the composers. This point is illustrated nicely in Thomas Porcello's examination of the training of sound recording engineers in a music context. In his analysis of conversations between a professional sound engineer and a student in training, for instance, Porcello reports that language was the cause of much confusion and miscommunication during the sonic composing process. In particular, the professional sound engineer tended to rely on technical language about specific instruments and technologies used

to manipulate sound, while the student attempted to describe sounds by referring to artists and bands that he admired (724). What I want to draw attention to about this example is that, in their descriptions of sounds, each person grasped for language from contexts that were most familiar to them. In this case, the different contexts from which the professional and student derived their language made it difficult for them to understand each other. Thus, I am suggesting that having students come up with their own vocabulary that is derived from the sonic experiences that they are most familiar/comfortable with—whether that language is taken from a common knowledge of different genres or styles of music, audio techniques that they know from pop cultural contexts like remixes and mashups, or even shared sonic experiences that occurred at some point in the assignment sequence—will help to reduce confusion and foster a more productive working vocabulary that can be employed in the revision and discussion of teams’ final sonic products.<sup>51</sup> In short, this exercise amplifies the significant relationship between sound and language in a compositional setting.

### **III. Toward a Body-Centric Multimodal Education**

By re-imagining the multimodal listening and sonic composing practices that are associated with cars and everyday products for the multimodal composition classroom, I have created a multi-layered project that asks students to consider sound as a dynamic mode of composition that is part of a larger sensory and material network. This assignment sequence requires students to participate in a holistic multimodal composing experience. While

---

<sup>51</sup> Porcello also makes an important point that “The problem of representing sensorial phenomena through language is not, of course, unique to sound. Wine tasting, for example, raises the problem of how to make taste accessible to others in language, and attempting to describe perfume does much the same for rendering the sense of smell” (734). The language exercise I have developed for sound, then, could also be effective in discussions of other sensory experiences that are engineered during the production of multimodal texts.

multimodal composition pedagogies already encourage students to consider some of the affordances and limitations of multiple modes, the kind of explicitly embodied sensory and material engagement that I have highlighted in this chapter does not yet play a substantial role in multimodal education (at least as it is conceived of in rhetoric and composition studies). These body-centric practices need to be incorporated into the multimodal composition classroom because they account for all of the sensory modes and materials that shape the composing process and for the fact that sensing bodies will be interacting with the compositions that are being produced. Rather than considering how different modes work with and against each other in an abstract way, then, body-centric composing practices make it possible for students to create more immersive sensory experiences—a relevant practice considering that the design and production of immersive experiences is becoming a standard form of multimodal composing in our “experience society” (Cleophas and Bijsterveld 118).

Sound-based projects are especially ideal for teaching students body-centric multimodal composing practices since sound is more synesthetic than other modes. Because sound can be heard, seen, and felt, it has the potential to engage bodies in more holistic, immersive ways than alphabetic text or images, for instance. Teaching students bodily practices that require them to attend to how sound works in sensory experiences is a crucial step in helping them understand the rhetoricity of sound (and other modes) in multimodal composing contexts—both digital and non-digital. Most importantly, integrating more body-centric sonic composing practices in the multimodal composition classroom can deepen students’ knowledge of how sound is designed and composed to work as a persuasive force in a diverse range of sonic experiences.

Incorporating such an approach into multimodal composition will enable students to cultivate

practices that can make them more savvy composers of sonic texts/products/experiences of all kinds, as well as more thoughtful and attentive listeners in their everyday lives.

*Listening is an important human activity just because it creates an intimate connection to the dynamic activities of life.*

-Barry Blesser and Linda-Ruth Salter

## **6. Listening and Composing as Plastic Arts: The Purpose, Value, and Extensive Reach of Multimodal Listening Pedagogy**

In a recent study of birdsong in San Francisco, researchers reported that over a forty year span white crowned sparrows have raised the pitch of their songs so that they can be heard (and hear each other) above the increasingly loud urban soundscape (Biello). Like these sparrows, humans must find effective ways to thrive in soundscapes that are always in flux. As sonic experiences change and evolve, we need to adapt to find new ways to become more sensitive, engaged, and capable listeners and sonic composers. Listening must be treated as a practice that, like reading and writing and speaking, transforms over time in response to social, cultural, and technological developments. While listening has always involved multiple senses, now more than ever we need to pay attention to sound as a salient aspect of multimodal experiences—as a fundamental part of “experience society” (Cleophas and Bijsterveld 118). We need listening practices that can reinvigorate our etiolated sensory relationship to sound in digital contexts. We need listening practices that can deepen our understanding of how designed sound is employed strategically to influence our moods and behaviors and the ways that we interact with and navigate different spaces. We need listening practices that can help us learn to use sound to produce the kinds of multimodal experiences that are being marketed and sold to us for consumption. We need listening practices that can facilitate a more engaged and thoughtful

participation in the affectively rich sonic world around us. As I have argued throughout this dissertation, multimodal listening is a practice that responds to these needs.

Multimodal listening pedagogy offers an opportunity to create dynamic educational experiences in the composition classroom that can be translated to a range of experiences in students' academic, professional, and everyday lives. Indeed, the aim of multimodal listening pedagogy is to generate expansive, or what Dewey refers to as "esthetic," sonic experiences. As Dewey writes in *Experience and Education*,

As an individual passes through one situation to another, his world, his environment, expands or contracts. He does not find himself living in another world but in a different part or aspect of one and the same world. What he has learned in the way of knowledge and skill in one situation becomes an instrument of understanding and dealing effectively with the situations that follow. (44)

Cultivating an acute awareness to the multimodal, ecological aspects of sound in the composition classroom can expand and enhance students' knowledge of and interactions with sound in subsequent situations. That is, multimodal listening pedagogy enables students to develop a flexible set of critical competencies and habits that are relevant to a wide variety of experiences. In this final chapter, I amplify multimodal listening as a highly adaptable, plastic practice that listeners can use to heighten their sensitivity to sound and other modes in a host of different settings. In the first section, I examine how multimodal listening pedagogy can contribute to rhetoric and composition via offering more expansive notions of multimodality, recovering the sonic and multimodal features of alphabetic texts, and opening up possibilities for interdisciplinary connections and practices. In the second section, I turn to some of the ways that multimodal listening pedagogy can enhance students' encounters with sound and multimodal

experience in their personal lives, focusing specifically on new social forms of sonic composing, Remix Culture, and DIY (Do-It-Yourself) making practices. My aim is to outline the potential reach and relevance of multimodal listening pedagogy within and beyond the academy.

## **I. Multimodal Listening Pedagogy and Rhetoric and Composition**

One of multimodal listening pedagogy's most significant contributions to rhetoric and composition is its all-encompassing approach to the teaching of listening. Unlike the disciplinary scholarship on listening and sonic composing practices I outlined in Chapter 2, multimodal listening pedagogy serves as a way to strengthen the relationship between digital *and* non-digital multimodal experiences. As Shipka points out, in rhetoric and composition the term "multimodal" is usually equated with the digital, which ignores the "fundamentally multimodal aspects of all communicative practice" (13 *Toward*). The digital is often depicted as *the* distinctly multimodal area of composition, thus making it seem as if other kinds of compositional or communicative practices are somehow "monomodal" (120). Shipka urges composition scholars to break from this narrow conception of multimodal pedagogy:

If we are committed to creating courses that provide students with opportunities to forge new connections, to work in highly flexible ways, and to become increasingly cognizant of the ways texts provide shape for and take shape from the contexts in which they are produced, circulated, valued, and responded to, *it is crucial...that we not limit the range of materials and technologies that students might take up and alter in compelling ways.* (85, my emphasis)

Multimodal listening pedagogy moves beyond exclusively digital environments and thus provides students with the kinds of expansive, flexible learning situations that Shipka describes.

As Glennie stated in our interview, heightening listeners' sensitivity to sound means incorporating "a range of frequencies" into their "sound diets" (Personal Interview). The all-encompassing approach to sonic experiences in multimodal listening pedagogy serves as a way to introduce students to a more extensive and diverse "sound diet." Asking students to attend to, reflect on, and compare their sonic experiences in different digital and non-digital contexts can deepen their knowledge of the functions, effects/affects, possibilities, and limitations of sound in those contexts. And often, when students come back to a digital environment after having a very different non-digital sonic encounter (or vice versa), they have an increased sensitivity to how sound works and affects in each context; developing a critical attention to sound in digital and non-digital environments can be a mutually beneficial practice.

Multimodal listening pedagogy involves creating opportunities for students to interact with sound in ways that can facilitate their growth and learning in subsequent experiences, which is why I believe it is a valuable approach to teaching listening in the multimodal composition classroom. As opposed equating multimodality with exclusively digital environments, multimodal listening pedagogy can help students strike a balance by teaching them to capitalize on the compositional affordances of sound in digital contexts while retraining them to become more sensitive, savvy listener-composers of sound writ large. In short, by encouraging an expansive and eclectic "sound diet," multimodal listening pedagogy presents an opportunity for teachers to design the kinds of *quality* sonic experiences that are currently lacking in multimodal composition pedagogy.

### *Sounding Alphabetic Writing*

My primary focus in this dissertation has been on listening practices in relation to multimodal composition. However, I would argue that multimodal listening pedagogy has the potential to enrich approaches to the teaching of alphabetic writing as well. Developing a heightened sensitivity to sound via multimodal listening practices can raise students' awareness of the powerful effects of sound in textual writing. As Jason Palmeri writes, "When we pause to listen for the sounds of composition, we can be reminded that alphabetic and aural communication are deeply intertwined" (52). However, because silent reading practices have become so prevalent, students have been conditioned to engage with and create texts as if they were never meant to be sounded. Even when students are asked to read poetry, a genre that is designed to recover intonation and voice, they often sound it in a dull or lifeless manner. Indeed, words are not brought to life simply because they are read aloud. Bialostosky explains that "Readers who choose to reanimate those words will need to become adept at reading not just the words and sentences but the *signs of life* that indicate tones and gestures and the cues that make available the world in which and toward which those gestures are directed" (Bialostosky, my emphasis). It is necessary for students to be taught how to recover the "signs of life"—the "tones and gestures and the cues" in written language—in order to reinvigorate their sensory experience of alphabetic texts. I would suggest, then, that pairing multimodal listening practices with textual compositions could help students develop an acute awareness to how sounds and other sensory modes shape and are shaped by alphabetic text. Below I elaborate on three specific ways that multimodal listening pedagogy can heighten students' sensitivity to sound and multimodal experience in alphabetic writing.

First, multimodal listening practices can serve as a way to defamiliarize students' deeply ingrained approaches to reading that have dulled their sensitivity to the sonic potential of alphabetic texts. Treating texts exclusively as visual objects from which meaning can be extracted, or only as an occasion for abstract thinking, precludes more holistic, embodied ways of knowing, experiencing, and participating in a text. Steven Katz observes, "Interpretation as the method of teaching and criticism has become so embedded in our theory and practice that we regard it as a normal, natural, and inevitable (as well as a neutral) intellectual activity—as the only way of arriving at knowledge, as the only kind of knowing" (70). Because multimodal listening pedagogy encourages students to reflect on their habits—to unlearn ingrained sensory habits and relearn how to be sensitive in different ways—taking such an approach has the potential to revive students' sensory relationship to alphabetic texts. For example, a multimodal listening exercise with alphabetic text might involve experimenting or playing with the various ways that a personal essay can be sounded—something that Bialostosky recommends when teaching students to sound poetry. Such an exercise has the potential to jolt writers from their habitual experience of reading lifeless words because it requires them to enact different *embodied performances* of their text. Of course, not all alphabetic texts are designed to be sounded (informational or instructional texts, for instance). However, multimodal listening pedagogy could enrich students' relationship to sound in textual writing by asking them to think about why, when, and how they might take advantage of the sonic potential of text throughout their reading and writing processes.

Second, multimodal listening pedagogy offers a way to approach alphabetic text as a *sensual, multimodal medium*. It is important to remember that sound is always connected to and influenced by other modes and materials. In addition to offering a way to amplify the role of

sound in alphabetic texts, multimodal listening practices encourage the development of a set of habits and competencies that enable more holistic sensory interactions with texts. For example, coupling multimodal listening and alphabetic writing practices could draw more attention to how the sounds and meanings of words are shaped by their look (font style and size, color), placement (where lines or paragraphs break, how space is used), contextual/material features (words on paper, screens, buildings), and how all of these elements work with and against each other. Multimodal listening pedagogy's emphasis on engaging the world via all of the senses has the potential to strengthen the relationship between alphabetic texts and other kinds of more explicitly multimodal experiences. Multimodal listening pedagogy can augment students' understanding of alphabetic text as one part of a larger sensory and material network.

Third, multimodal listening pedagogy provides an approach that can heighten students' awareness of how alphabetic texts function as *experiences*—something I gestured toward in Chapter 1. Sound, whether it is sounded aloud or in one's mind, plays a key role in designing experiences in alphabetic texts. As Peter Elbow notes, the sonic elements of a text play an integral part in pulling readers (or listeners) through the journey of the text. Elbow suggests that textual compositions that are designed to be compelling and engaging experiences work like a piece of music. He writes, “Music tends to bring us to a state of final satisfaction by way of a journey through nonsatisfactions, half satisfactions, and temporary satisfactions: degrees of yearning and relief—itch and scratch. This process is what literally holds the piece together” (623 “The Music of Form”). Similarly, alphabetic texts are held together by “energy or dynamism” that has to do with the ways that authors design the sound, structure, and rhythm of language (623). More so than other sensory and material elements that shape a textual composition, then, attending to sound can heighten authors' sensitivity to how their texts work as

experiences. Much like the acoustic design and automotive acoustic engineering practices I outlined in previous chapters, writers must learn to attend to texts as sonic experiences and tinker with them until they achieve their intended effects/affects. Multimodal listening practices would encourage writers to test out or experiment with the sonic elements of the texts themselves; to participate in the sound-driven experience that they are creating for readers/listeners.

While much has been written about voice, orality/aurality, and delivery in rhetoric and composition scholarship,<sup>52</sup> the sonic aspects of alphabetic texts are rarely discussed as part of an overall experience. What multimodal listening pedagogy can offer approaches to alphabetic writing is a more expansive, holistic treatment of sound that has the potential to revive the multimodal and performative aspects of language. Multimodal listening pedagogy could contribute to and enrich the large body of scholarship on voice, orality/aurality, and delivery by amplifying the material, ecological, and sensory aspects of alphabetic language—by inviting readers and writers to participate in texts as lived sonic events rather than lifeless symbols of abstraction.

### *Re-imagining a More Integrated Sonic Education*

Multimodal listening pedagogy can extend the reach and relevance of rhetoric and composition to a broader set of students and disciplines. Sound is an especially useful focus for developing a more interdisciplinary approach to rhetoric and composition. As Jonathan Sterne

---

<sup>52</sup> See, among many others, Zoellner's "Talk-Write: A Behavioral Pedagogy for Composition" (1969), Snipes' "Oral Composing as an Approach to Writing" (1973), Nauer's "Soundscript: A Way to Help Black Students to Write Standard English" (1975), Ede's "Oral History: One Way out of the Slough of Despond" (1977), Connors' "The Differences between Speech and Writing: Ethos, Pathos, and Logos" (1979), Elbow's "The Shifting Relationships between Speech and Writing" (1985), Killingsworth's "Product and Process, Literacy and Orality: An Essay on Composition and Culture" (1993), Lunsford's "Writing Technologies, and the Fifth Canon" (2006), and Selfe's "The Movement of Air, The Breath of Meaning: Aurality and Multimodal Composing" (2009).

writes, “Today, there is a boom in writings on sound by authors in the humanities and social sciences...Dozens of monographs on one or another aspect of sonic culture have appeared since the early 1990s, alongside countless journal articles, book chapters, and a growing list of anthologies” (1-2 “Sonic Imaginations”). Considering the increasing importance of sound and sound-related research across the disciplines, I believe that incorporating multimodal listening pedagogy into rhetoric and composition curricula has the potential to create a more explicitly interdisciplinary environment that could strike a chord with students who may not be inclined to see the value of composition courses. For example, some art or engineering students might feel as if they do not have much to contribute to a personal essay or a podcasting assignment. However, an assignment like “Design a Sonic Product” would give these students an opportunity to use practices that are already familiar and relevant to them (i.e. creative problem solving, coming up with imaginative designs, etc.). At the same time, this assignment would introduce them to specific compositional and rhetorical practices that are important to their work within and beyond the composition classroom (i.e. considering audience, attending to how the product or text works as a whole, learning how to create persuasive compositions using multiple modes, learning how to make significant revisions, etc.).

This is not to say that we should stop teaching textual writing, which is and will continue to be a critical practice in school and in everyday life; and I am not arguing that it is necessary for every composition classroom to focus on sound. Multimodal listening pedagogy is not a one-size-fits-all method for teaching. What I am suggesting is that creating more diverse, interdisciplinary assignments via multimodal listening pedagogy could help students become more savvy consumers and producers of sound (and multimodal experiences) writ large; at the same time, such assignments would continue to help students cultivate habits and practices that

are vital to an education in rhetoric and composition. Taking the initiative to incorporate even one multimodal listening/sonic composing project or exercise into a course—particularly a multimodal composition course that already deals with sound—is an important step toward helping students develop practices that they could apply to areas of their academic lives that involve more than alphabetic writing.

Because sound is becoming a significant medium in so many professional, creative, and academic fields, it is also an excellent starting point for forging more formal connections between areas of study across the university. Multimodal listening pedagogy lends itself to collaborative interdisciplinary teaching. Indeed, because there are so many perspectives on and uses of sound in various fields, teaming up with people from dissimilar backgrounds is essential in developing a more complex and holistic program of sonic study for students. For instance, rhetoric and composition instructors might work with teachers from engineering, art and architecture, design, marketing, business, computer science, sociology, anthropology, and/or music to create more integrated curricula, classes, or projects. As Sterne notes, “no one field’s approach to or take on sound is enough” (3). A curriculum based in part around multimodal listening pedagogy could give rhetoric and composition teachers and teachers from different parts of the university a chance to synthesize their knowledge of sound and listening, which would be crucial in terms of developing a fuller and more integrated multimodal education.

I could envision, for example, a cluster of courses based on the theme of “Sound as a Mode of Inquiry” that would be offered in departments throughout the university. A sociology class that participated in this cluster might include a project that required students to investigate the functions or significance of sound in a particular community or culture. A studio arts course might include an assignment sequence that asked students to design and create an installation

that enabled listeners to engage with sound in dynamic ways. And a multimodal composition course could offer a project similar to the “Sounding Pittsburgh” project, which invites students to explore how sounds shape and are shaped by places. Regardless of the theme that the cluster of connected courses might take up, the multimodal listening practices that students cultivate in rhetoric and composition would provide a strong foundation for approaching sound in more critical and expansive ways in their other courses.

I would argue that it is essential to include rhetoric and composition in interdisciplinary endeavors regarding sound and listening because it provides a set of generative questions and practices that are central to listening and sonic composing practices writ large. Incorporating multimodal listening pedagogy into rhetoric and composition could contribute a great deal to other disciplines’ approaches to sound. As opposed to focusing on the technical aspects of sound and how it works (something that is emphasized in physics or architectural studies, for example), a multimodal listening pedagogy enables students to take a more creative, compositional approach to sound. For example, the multimodal listening and sonic composing practices that I have proposed involve considerations of audience, how sound is connected to a larger sensory and material network, how sound means, affects, and persuades in different contexts, etc. Such practices are fundamental to sonic engagement and design in many other fields.

Implementing the kinds of disciplinary and extra-disciplinary sound-based curricula that I have discussed will require teachers of rhetoric and composition to embrace unfamiliar compositional modes and materials in their classrooms. An integrative multimodal listening pedagogy demands a willingness to experiment with and invent new ways for students to interact with sound and other media; it entails taking up more expansive notions of “classroom spaces” and “composing contexts”; and it means being open to collaboration across the university.

However, I would argue that putting multimodal listening pedagogy into practice is worth the discomfort and pedagogical risk-taking because it can incite new possibilities and pathways for the teaching of listening and composition that are relevant to students' academic, professional, and everyday lives.

## **II. Multimodal Listening and Everyday Composing Practices**

Composition is an ever-shifting and expanding practice, and it is an ongoing challenge for teachers to infuse composition pedagogies with relevance—to keep up with the ways that composing practices morph and change not only in school, but in everyday life. As Sirc writes, “[Peter] Elbow put the dilemma best, I think: life is long, college short; do we teach to life or college? I’m more and more persuaded to err on the side of life in my courses: both the public, cultural lives students live, as well as their own personal lives and expressions” (115 “Box-Logic”). Like Sirc’s, my own pedagogy emphasizes compositional practices that can enrich students’ lives both within and beyond the ivory tower. Indeed, one of the most valuable aspects of multimodal listening pedagogy is that it helps students cultivate habits and practices that can facilitate their participation in a *broader culture of composition*. Here I outline a few of what I consider to be significant, rapidly growing areas of this culture of composition and discuss how multimodal listening pedagogy can prepare students to become more thoughtful and sensitive participants in this culture—more active, creative, and empowered consumers and producers in their everyday lives.

### *Multimodal Listening Pedagogy and Social Soundscaping*

Recent developments in mobile technology have inspired the emergence of dynamic soundscaping projects. According to Kati Fargo Ahern and Jordan Frith, there is a rising compositional movement called “social soundscaping” that involves “contributing, geo-locating, sharing, and modifying sounds uploaded and tagged to specific public spaces” (Ahern and Frith). The social soundscaping practices that these authors refer to differ from the digital sound map projects I discussed in Chapter 3. While digital sound maps are a great way to introduce students to how sound shapes places (and vice versa), they are also limiting in terms of users’ abilities to control or manipulate sounds after they have been posted. In other words, after users contribute sounds to digital sound maps, those sounds usually become the responsibility of the map’s editors or creators. Once the sounds exist in the map they serve as more of an archival resource as opposed to a fully interactive sonic environment. Newer forms of social soundscaping projects, on the other hand, enable listeners to be true collaborators and authors of soundscapes by giving them ongoing control over a sonic composition. I want to suggest that training students to attend to the ecological relationship between sound, bodies, and environments via multimodal listening pedagogy can prepare them to become thoughtful participants in this novel and significant form of sonic composition.

A project called “Tactical Sound Garden” provides an excellent example of how multimodal listening pedagogy can facilitate students’ participation in social soundscaping. Drawing on the idea of urban community gardens, “Tactical Sound Garden” is an open source digital platform that allows users to upload or “plant” sounds into a digital map of a specific urban space. As Mark Shepard, creator of “Tactical Sound Garden,” explains, “These plantings are mapped onto the coordinates of a physical location by a 3D audio engine common to gaming

environments—overlaying a publicly constructed soundscape onto a specific urban space” (Shepard). The idea is that people can wear headphones and use their WiFi-connected mobile devices to listen and contribute to location-specific sound gardens in a virtual environment while they are physically drifting through urban spaces.

What is unique about “Tactical Sound Garden” is the option users have to manipulate or delete (“prune”) sounds that other participants have contributed. Thus, sound gardens—and the experiences listeners have while physically inhabiting sound gardens—are always changing. For example, users often plant sounds in environments that do not belong there, transforming the space’s ambiance for listeners. Some users enjoy making spaces seem strange or surprising (i.e. adding elephant sounds to a city park), while others may choose to amplify sounds that are already a part of the natural soundscape (i.e. birdsong that would normally be overpowered by other city noises). When changes are made to the soundscape, they are automatically mixed in with the previously existing sounds in real time. Users who occupy the physical space of a sound garden may encounter and/or contribute to several different versions of that sound garden during a single visit.

Teaching students to attend carefully to sound in relation to the larger environment via multimodal listening practices trains them to become the kind of sensitive, thoughtful listeners that would be wonderful contributors to social soundscaping projects like “Tactical Sound Garden.” While social soundscaping is dependent primarily on ear-centric listening experiences, it is a practice that also accounts for how sounds affect bodies moving through and interacting with particular spaces. The ecological multimodal listening and sonic composing practices that students develop in the multimodal composition classroom thus provide students with a foundation for participating in such projects in creative and critical ways.

I would argue that encouraging students to participate in projects like “Tactical Sound Garden” is important because social soundscaping gives listeners a chance to be active producers of everyday soundscapes, enabling them to take more agency over spaces that are becoming increasingly privatized. As Shepard writes, “Tactical Sound Garden”

seeks to reintroduce a form of active participation in the articulation of public space.

Conditions for free and open public space in contemporary cities are mitigated by an array of forces. Surveillance and security systems track our moves and transactions.

Marketing forces compete for the captivation of our attention in bus stops, subway

passages, and public squares. The privatization of broad sectors of urban space to the

profit of large, public corporations have resulted in ever more scripted urban experiences

for the passers-by. (Shepard)

Introducing the concept of social soundscaping to students in discussions about multimodal listening could at the very least raise their awareness of how sound (and other sensory modes) works and affects in the public spaces they encounter in their personal lives, and perhaps inspire them to participate in or even invent their own sound-driven creative community projects.

“Tactical Sound Garden” is just one example of the kinds of participatory sonic composing projects that fuse digital and non-digital sonic experiences for creative and/or political purposes.

Interactive sound-based projects in museums, music halls, and a wide range of public spaces are cropping up all over the world.<sup>53</sup> Whether students encounter these kinds of sonic projects on

their own or in a multimodal composition classroom, multimodal listening pedagogy will

provide them with flexible practices and habits that they can use to participate in cultural sonic

events in thoughtful and sensitive ways.

---

<sup>53</sup> For a wide variety of examples of sound art and installations, see Dyson’s *Sounding New Media*, Munster’s *Materializing New Media* and Gibbs’ *The Fundamentals of Sonic Art & Sound Design*.

### *Multimodal Listening Pedagogy and Remix Culture*

Experimenting or tinkering with sounds in relation to different materials and contexts is a central feature of multimodal listening pedagogy. By encouraging students to consider the rhetorical and affective possibilities of sound via experimentation, multimodal listening pedagogy helps students hone the kinds of tinker-centric practices that can facilitate participation in “Remix Culture,” or the popular practice of combining and manipulating pre-existing material (often audio and/or video) to create something new. Tinkering with other people’s sound has become an established form of composing digital media in everyday life. As Peter Szendy writes, “[digital] equipment opens the possibility, for every listener, of making his own listenings [to others’ sounds] recognized: of reproducing them, spreading them, that is to say publishing them, in order to hear them, exchange them, comment on them—in short, to construct a culture of critical listening...listeners become authors” (94-95, 136). The “culture of critical listening” that Szendy identifies is a major part of what drives Remix Culture. Producing and sharing audio and video remixes—some of the most prominent genres of Remix Culture on the web—involves tinkering with and attending to the material, technical, and affective aspects of sound, which is why the practices that students develop in multimodal listening pedagogy are especially useful for participating in Remix Culture.

Consider Pittsburgh’s infamous remix artist Girl Talk (a.k.a. Greg Gillis). Known for his deftly crafted mashups of other people’s music, Girl Talk has become a celebrated hero in Remix Culture. His most recent album, *All Day* (2010), uses 373 different sound bites from the archives of pop music (“Girl Talk-All Day”). As the *YouTube* video, “Girl Talk Creates a Mashup” illustrates, creating densely textured audio mashups via audio editing software involves trial and error and a willingness to play with different sounds and beats to understand how they fit

together or not (“Girl Talk Creates”). Girl Talk illustrates that tinkering is “highly situational and context dependent, presumably without thesis or formula” (Sayers). Indeed, throughout the video Girl Talk stops to listen to how things sound together, manipulates the volume or speed, cuts and rearranges parts of the sound waves on the screen, creates loops, listens again, recomposes, relistens, and so on. Listening and composing is a recursive process for Girl Talk—a dynamic cycle that continues until he is able to articulate his own unique version of a song from the stock of material.

Though Girl Talk is often lauded for his technical skills, what is most interesting to me about his tinker-centric production is his ability to locate the rhetorical sweet spot of the songs that he manipulates. As he experiments with the technical aspects of stitching together a song, Girl Talk also tries to identify striking themes, patterns, and rhythms. Rather than choosing soundbites randomly, he considers the cultural context of the song in its original form (what cultural associations listeners might have with it), as well as what part of the song has the most affective potential (what soundbite has the most *bite*, so to speak). By affective, I am not only referring to the emotional resonance of the songs. Girl Talk’s composing process involves thinking about how bodies will feel or experience his music—what beats will literally get his audiences moving at live concerts. As someone who has attended a Girl Talk concert, I can confirm that his shows are just as much a physical, affective experience as they are an ear-centric listening experience.

As Girl Talk demonstrates, tinkering is not merely a technical task; it is a rhetorical practice that requires paying attention to the contextual and affective aspects of sonic material. Girl Talk’s tinkering entails thinking about listeners’ holistic experiences with music—the cultural, emotional, and physical experiences that are triggered by particular songs. In this sense,

the tinkering required in the creation of audio remixes, which involves considering the relationship between sounds, bodies, and environments/contexts, is quite similar to the “Designing a Sonic Product” assignment sequence I proposed in the last chapter. Like the goal of Girl Talk’s tinkering process, the ultimate aim of this assignment is to design a *holistic experience* for product users.

Heightening students’ sensitivity to the way that sound works and affects via tinker-centric multimodal listening practices can help them become more attentive, capable listeners and composers in Remix Culture. Teaching students to develop practices that can facilitate their participation in Remix Culture is important because remixing is a vital form of contemporary composition that can serve as a mode of self-expression, critical reflection, and/or political activism. In other words, Remix Culture is a way for our students to share, critique, and build on in-process ideas and conversations; it provides an outlet for individuals to speak up and to speak back to the media that saturates their daily lives. Rather than passively consuming the culture that is made by other people, remixers become producers of culture themselves. The practices cultivated via multimodal listening pedagogy are valuable because they can prepare students to take part in a compositional culture that promotes creative agency, freedom of expression, and an active engagement with and production of salient artistic, cultural, and political ideas.

### *Beyond Sound: Multimodal Listening Pedagogy and DIY Making*

Multimodal listening pedagogy is not limited exclusively to teaching students to be more active consumers and producers of sound. I would argue that multimodal listening pedagogy’s emphasis on embodied experience has the potential to enrich compositional practices broadly conceived. While in previous chapters I have focused on embodied listening practices in extra-

disciplinary sonic contexts (music, acoustic design, and automotive acoustic engineering), here I want to suggest that the bodily reflection involved in multimodal listening pedagogy can also inform an array of non-sonic composing or making practices. Specifically, I want to draw attention to multimodal listening in relation to DIY (Do-It-Yourself) culture.<sup>54</sup> My use of the term DIY refers to a broad swath of activities that involve homemade or handmade production. The kinds of handmade products found on websites like Etsy, for instance, are an example of what I mean by contemporary DIY making practices. Many social media sites like Pinterest are also used to share “how-to” instructions in order to help others make their own food, clothing, jewelry, gadgets, etc. DIY culture has become so popular that it is now associated with local and international clubs, workshops, and festivals.<sup>55</sup> Extending my liberal definition of composition to contemporary DIY making practices will illuminate the prominent role of bodily learning experiences in everyday forms of composition, thus underscoring the significance of multimodal listening pedagogy beyond sound.

---

<sup>54</sup> DIY culture—most commonly associated with punk music and independent literary scenes—has a long cultural history, particularly in the U.S. and Great Britain. Historically, DIY has been associated with a particular set of ideals and values: self-sufficiency, knowledge sharing/collaboration, anti-consumerism, creativity/invention, and individual empowerment, to name a few. However, here I am referring to the most recent appropriation of DIY culture that is concerned with handmade/homemade practices of making. While this current iteration of DIY is certainly a watered down version of earlier, more aggressive “punk” versions of DIY (think the Sex Pistols), it does share some of the same ideals and values. In this discussion I am most interested in making practices that foster creativity/invention and individual empowerment.

<sup>55</sup> “Maker Faires” have become a huge hit among DIY communities worldwide. According to the “Maker Faire” website, “A record 165,000 people attended the two flagship Maker Faires in the Bay Area and New York in 2012” (“Maker Faire”). Dubbed “The Greatest Show and Tell on Earth,” Maker Faires are places where people show off their DIY projects ranging “across the spectrum of science, engineering, art, performance and craft” (“Maker Faire”). As featured in the 2009 documentary *Handmade Nation*, Maker Faire attendees are often taught to make the things they come to see as opposed to buying something someone else made. In addition to providing a space for individuals to connect with others who share a similar interest in DIY practices, these celebrations serve as massive collaborative networks for attendees, makers, and entire crafting communities.

Just as developing multimodal listening practices requires attending to and reflecting on bodily experiences with sound, cultivating various kinds of DIY making practices from knitting a scarf to making a metal sculpture involves reflecting on and learning from embodied sensory experiences. The bodily experience of making things—literally combining materials to create something—is shot through with thinking and reflection about creative decisions, aesthetic effects/affects, and the meanings associated with the object being made. As David Gauntlett states, by “going through the thoughtful, physical process of making something—such as a video, a drawing, a decorated box, or a Lego model—an individual is given the opportunity to reflect, and to make their thoughts, feelings or experiences manifest and tangible” (4). The embodied experience of making and critical reflection go hand in hand.

Consider DIY glassblower, Erin O’Connor. O’Connor explains that she wants to make a goblet that would be “big and rounded enough to support the fragrant ‘nose’” of her favorite Italian wine (Sennett 173). In order to create the goblet she has envisioned, O’Connor needs to unlearn the bodily habits she acquired when making simpler kinds of glassware, thus developing a more acute awareness of how her body figures into the process of making (173). Her bodily movements are a crucial part of the process because they affect the shape and material quality of the glass; she must relearn how to position her hands and body to make the goblet she desires. The amount of time it takes to get the glass to look the way she wants also takes a greater physical toll than previous projects and requires her to adjust her bodily technique. Observing O’Connor’s process, Richard Sennett writes, “To avoid strain when twirling the pipe, the glass blower’s back must incline forward from the lower rather than upper torso, like a rower reaching for the beginning of a stroke” (173). O’Connor must build on and diverge from familiar physical movements to adapt to this unfamiliar compositional task. Reflecting on how her bodily practices

in this new project are different from her bodily practices in previous projects is an essential part of enhancing and expanding O'Connor's glassblowing capacities.

Like the multimodal listening practices I have described in earlier chapters, DIY making practices from glassblowing to bookmaking are holistic experiences in which “knowing, doing, feeling, and making sense are inseparable” (McCarthy and Wright 17). Further, the feelings of satisfaction, creative agency, and empowerment one feels during the making process produces a kind of “heightened vitality” that facilitates deep learning experiences, or “esthetic” experiences (Dewey 18 *Art*). The heightened sensitivity to the body that is required in both multimodal listening practices and DIY making practices enable individuals to learn from and build on past bodily experiences, which helps them enhance their abilities with each subsequent experience. To my mind, then, cultivating habits of acute bodily attention and thoughtful reflection via multimodal listening pedagogy can prepare students for the body-centric making practices involved in DIY culture. As McCarthy and Wright note, “The doing that we engage in can be mindless or mindful. The more we attend to that doing, the more likely our experience is to be meaningful and of value to us” (88). Multimodal listening pedagogy promotes the kind of mindful doing that gives students an opportunity to reflect on and learn from their embodied interactions with the world. Thus, multimodal listening pedagogy encourages practices that are crucial not only to the development of critical, sensitive listening habits, but to the development of meaningful embodied learning experiences that can expand students' capacities as makers in a broader culture of composition.

Teaching students practices that facilitate participation in DIY making culture is significant because DIY culture promotes a move away from passive consumption by encouraging consumers to make, remake, and transform culture (in this sense, Remix Culture

could be considered as a distinct part of the broader DIY making movement). Participating in DIY culture can lessen students' reliance on corporate, mass-produced products as well as imbue them with a sense of creative agency and empowerment. Brent Luvaas explains that the DIY movement is "a cultural reaction against living in a consumer society where we hire others to build our houses, design our clothes, and fix our appliances" (6). Considering the dominant influence of big business and corporate culture in this historical moment, now more than ever students need to cultivate practices that can help them design and compose their worlds rather than having those worlds designed for them.<sup>56</sup>

While a desire to achieve (at least partial) independence from big business fuels participation in DIY culture, taking part in this culture is not only about rejecting consumer society. As Chris Anderson states, "people are happier, more engaged with the world, and more likely to develop or learn, when they are doing and making things for themselves, rather than having things done and made for them" (226-227). Participating in this culture of composition can contribute to students' development as engaged, inventive, capable individuals. Gauntlett writes,

---

<sup>56</sup> I do not mean to suggest that participating in DIY culture is a totally democratic enterprise—a pie-in-the-sky notion of freedom from corporate culture or empowerment for one and all. In fact, many iterations of DIY culture throughout history have had ties to mainstream culture. For example, the Sex Pistols—the punk band that is celebrated for its radical, anti-capitalist DIY idealism—had a record deal with EMI, a major corporate label (the same goes for The Damned, The Clash, the Ramones, and many other punk bands associated with DIY) (Spencer 12). DIY culture has always been fraught with contradictions and inconsistencies, which continue today. Many DIY projects that people share on the Internet, for instance, are connected to and sometimes controlled by major corporate entities that either own the websites people use to post their work and/or run advertisements for their products on those sites. More generally, "DIY" has become a buzzword that is attached to everything from Home Depot ads to boxes of cake mix. Clearly, not every kind of DIY activity carries the same significance in terms of its ability to transform culture, and many DIY practices are still entwined with big business. While I do not want to overstate the transformative power of the DIY movement or associate with the naïve view that all DIY culture is egalitarian, I do think that participating in this culture—and helping others learn to participate in it—is worthwhile because it can result in the kind of positive individual empowerment that can over time lead to larger collective forms of empowerment.

Making things shows us that we are powerful, creative agents—people who can really do things, things that other people can see, learn from, and enjoy. Making things is about transforming materials into something new, but it is also about transforming one’s own sense of self...Through creative activity, where making is connecting, we can increase our pleasure in everyday life, unlock innovative capacity, and build resilience in our communities, so that we can face future challenges with confidence and originality. (245)

Participating in DIY culture is important because it can make people more confident in their own abilities, more willing to share their own ideas and projects, and more eager to help others’ develop their own ideas and projects. DIY modes of composition can provide students with a sense of creative agency and pride in their ability to make things for themselves—to compose in the broadest sense of the word. We might think of participating in DIY culture, then, as a means of *empowering composers*. Multimodal listening pedagogy offers a set of explicitly embodied habits and competencies that are a crucial component in this participation. DIY culture’s emphasis on enhancing and expanding one’s composing capacities makes multimodal listening pedagogy an ideal method for preparing students to participate in this broader culture of composition.

### **III. Toward a More Soundful Approach to Rhetoric and Composition**

One of the main goals of my dissertation has been to offer an approach to the teaching of listening that will prepare students for the kinds of listening and composing experiences that are most relevant to their academic, professional, and everyday lives. I have outlined the many ways that multimodal listening pedagogy fosters critical habits of consumption and production that can enrich compositional practices of all kinds. In striking contrast to the opening scenes of this

project, which emphasized common ways that people *disengage* from the world by plugging into digital devices, I have shown how multimodal listening pedagogy can be used to help students achieve a more balanced sound diet by learning to interact thoughtfully with sound in an array of digital and non-digital contexts. Multimodal listening practices provide a way for students to develop as more engaged, sensitive listeners and composers—consumers and producers—who are attuned to their embodied relationship with the sensory and material world.

My holistic approach to sonic experience has also amplified the synesthetic aspects of all sensory experience. Indeed, learning to attend to sound as a full-bodied, ecological, multisensory event can serve as a way to heighten one's awareness of the multimodal nature of any mode (alphabetic text, images, etc.). Multimodal listening practices need to be incorporated into multimodal education because they force listeners to confront the fact that there is always more than one way—more than one sense that could be used—to approach a text or product or space. Multimodal listening pedagogy trains students to develop an agility that can deepen their understanding of sound and multimodal experiences as they move from context to context: from digital to non-digital environments, from composition class to other courses, from school to their daily lives (and vice versa). My hope is that this exploration of multimodal listening pedagogy will embolden teachers of rhetoric and composition to continue to think about what kinds of communicational and creative practices might be most relevant to composers in the twenty-first century—to re-imagine how the field might take a more expansive, plastic approach to the teaching of listening and other compositional and rhetorical practices.

## WORKS CITED

- 706boiyadigg. "1996 Monte Carlo with Super Bass Pro Box." *YouTube*. Audio. 8 August 2010. 27 March 2013. <<http://www.youtube.com/watch?v=D0BMLwIyNWw>>.
- Ahern, Kati Fargo and Jordan Frith. "Speaking Back to Our Social Spaces: The Rhetoric of Social Soundscaping." *Harlot: A Revealing Look at the Arts of Persuasion*. Issue 9: Sonic Rhetorics. Guest Eds. Steph Ceraso and Jon Stone. <<http://harlotofthearts.org/index.php/harlot/article/view/150/122>>.
- ancorapazzo. "Fridge Hum." WAV. *The Freesound Project*. 22 March 2013. 27 March 2013. <<http://freesound.org/people/ancorapazzo/sounds/181616/>>.
- Anderson, Chris. *Makers: The New Industrial Revolution*. New York: Crown Business, 2012.
- AudiofAmerica. "Audi S8 TV Commercial—'Suspect.'" *YouTube*. 5 September 2012. Web. 13 November 2013. <<http://www.youtube.com/watch?v=wtFkqQbNajI&feature=plcp&csref=62111648239202277>>.
- Ball, Cheryl and Byron Hawk, Eds. Special Issue: Sound in/as Compositional Space: A Next Step In Multiliteracies. *Computers and Composition* and *Computers and Composition Online* 23.3 (2006) <<http://www.bgsu.edu/cconline/sound/>>.
- Beastie Boys. "Body Movin' (Fat Boy Slim Remix)." *The Sounds of Science* [Disc 1]. Grand Royal, 1999. CD.
- Bergson, Henri. *Matter and Memory*. Trans. N.M. Paul and W.S. Palmer. Brooklyn: Zone Books, 1988.
- Bialostosky, Don. *How to Play a Poem*. n.p. Unpublished Manuscript. 2013.
- Bickford, Tyler. "Earbuds Are Good for Sharing: Children's Headphones as Social Media at a Vermont School." *The Oxford Handbook of Mobile Music Studies*. Eds. Jason Stanyek and Sumanth Gopinath. Oxford: Oxford University Press, Forthcoming. <[http://www.columbia.edu/~tb2139/pdfs/Bickford\\_EarbudsSocial.pdf](http://www.columbia.edu/~tb2139/pdfs/Bickford_EarbudsSocial.pdf)>.

- Biello, David. "How City Noise Is Reshaping Birdsong." *Scientific American* 22 October 2009. Web. 10 April 2013. <<http://www.scientificamerican.com/podcast/episode.cfm?id=how-city-noise-is-shaping-bird-song-09-10-22>>.
- Bijsterveld, Karin. "Acoustic Cocooning: How the Car Became a Place to Unwind." *Senses & Society*. 5.2 (2010): 189-211.
- Blessner, Barry and Linda-Ruth Salter. *Spaces Speak, Are You Listening: Experiencing Aural Architecture*. Cambridge, MA: MIT Press, 2009.
- bmoreno. "0249 Ambulance." WAV. *The Freesound Project*. 8 May 2012. 26 March 2013. <<http://www.freesound.org/people/bmoreno/sounds/155299/>>.
- Booth, Wayne C. *The Rhetoric of Rhetoric: The Quest for Effective Communication*. Malden, MA: Blackwell Publishing, 2004.
- Bourdieu, Pierre. *The Logic of Practice*. Trans. Richard Nice. Stanford: Stanford University Press, 1980.
- Bowie, Jennifer. "Rhetorical Roots and Media Future: How Podcasting Fits into the Computers and Writing Classroom." *Kairos* 1.3 (1996) <<http://kairos.technorhetoric.net/16.2/topoi/bowie/index.html>>.
- Brooks, Christopher N. *Architectural Acoustics*. Jefferson, NC: McFarland & Company, 2003.
- Brueggemann, Brenda Jo. *Lend Me Your Ear: Rhetorical Constructions of Deafness*. Washington, DC: Gallaudet University Press, 1999.
- , Ed. *Literacy and Deaf People: Cultural and Contextual Perspectives*. Washington, DC: Gallaudet University Press, 2004.
- , and Susan Burch, Eds. *Women and Deafness: Double Visions*. Washington, DC: Gallaudet University Press, 2006.
- , and Cynthia Lewiecki-Wilson, Eds. *Disability and the Teaching of Writing: A Critical Source Book*. Boston: Bedford St. Martins, 2007.
- . *Deaf Subjects: Between Identities and Places*. New York: New York University Press, 2009.
- Bull, Michael. *Sounding Out the City: Personal Stereos and the Management of Everyday Life*. Oxford: Berg, 2000.
- . *Sound Moves: iPod Culture and Urban Experience*. New York: Routledge, 2007.

- Byron, Ellen. "The Search for Sweet Sounds that Sell." *The Wall Street Journal*. 24 October 2012. Web. 10 April 2013. <<http://online.wsj.com/article/SB10001424052970203406404578074671598804116.html>>.
- Carter, Steven. "The Beatles and Freshman English." *CCC* 20.3 (1969): 228-232.
- Cavanaugh, William J., Tocci, Gregory C., and Joseph A. Wilkes. *Architectural Acoustics: Principles and Practice*. Hoboken, NJ: Wiley Publishing Co., 2009.
- Cintron, Ralph. *Angel's Town: Chero Ways, Gang Life, and Rhetorics of the Everyday*. Boston: Beacon Press, 1997.
- Cleophas, Eefje and Karin Bijsterveld. "Selling Sound: Testing, Designing, and Marketing Sound in the European Car Industry." *Oxford Handbook of Sound Studies*. Eds. Trevor Pinch and Karin Bijsterveld. Oxford University Press, 2012: 102-124.
- cmusounddesign. "bm\_busride." WAV. *The Freesound Project*. 30 April 2009. 26 March 2013. <<http://www.freesound.org/people/cmusounddesign/sounds/71950/>>.
- . "BC walk signal plane." WAV. *The Freesound Project*. 7 May 2011. 27 March 2013. <<http://www.freesound.org/people/cmusounddesign/sounds/119899/>>.
- . "03 Wholeys." WAV. *The Freesound Project*. 29 November 2009. 26 March 2013. <<http://www.freesound.org/people/cmusounddesign/sounds/84530/>>.
- cognito perceptu. "Cicadas." WAV. *The Freesound Project*. 23 August 2012. 27 March 2013. <<http://freesound.org/people/cognito%20perceptu/sounds/163688/>>.
- Comstock, Michelle and Mary Hocks. "Voice in the Cultural Soundscape." Eds. Cheryl Ball and Byron Hawk. Special Issue: Sound in/as Compositional Space: A Next Step In Multiliteracies. *Computers and Composition* and *Computers and Composition Online* 23.3 (2006) <<http://www.bgsu.edu/cconline/sound/>>.
- Connor, Steven. "Edison's Teeth: Touching Hearing." *Hearing Cultures: Essays on Sound, Listening, and Modernity*. Erlmann, Veit, Ed. 2004: 153-172.
- . "The Shakes: Conditions of Tremor." *Senses & Society* 3.2 (2008): 205-220.
- Connors, Robert J. "The Differences between Speech and Writing: Ethos, Pathos, and Logos." *CCC* 30 (1979): 285-290.
- Cope, Bill and Mary Kalantzis, Eds. *Multiliteracies: Literacy Learning and the Design of Social Futures*. London: Routledge, 2000.
- Cowan, James. *Architectural Acoustics: Design Guide*. Columbus, OH: McGraw-Hill, 2000.

- cs272. "cricket 1." MP3. *The Freesound Project*. 7 August 2009. 26 March 2013.  
<<http://freesound.org/people/cs272/sounds/77034/>>.
- Dangler, Doug, Ben McCorkle, and Time Barrow. "Expanding Composition Audiences with Podcasting." *Computers and Composition Online* (2007)  
<<http://www.bgsu.edu/departments/english/cconline/podcasting/>>.
- David. Personal Interview. 9 February 2012.
- Davidson, Cathy. *Now You See It: How Technology and Brain Science Will Transform Schools and Business for the 21<sup>st</sup> Century*. New York: Penguin Group, 2011.
- Deluigi, Sandy. "New Apple iPod Commercial 2013." 21 January 2013. *YouTube*. Web. 3 April 2013 <<http://www.youtube.com/watch?v=THjJFQLUMWc>>.
- DeVoss, Danielle Nicole and James E. Porter. "Why Napster Matters to Writing: Filesharing as a New Ethic of Digital Delivery." *Computers and Composition* 23.2 (2006): 178-210.
- , and Suzanne Webb. "Media Convergence: Grand Theft Audio: Negotiating Copyright as Composers." *Computers and Composition* 25.1 (2008): 79-103.
- Dewey, John. *Art as Experience*. 1934. New York: The Berkley Publishing Group, 2005.
- . *Experience and Education*. 1938. New York: Touchtone, 1997.
- Dolmage, Jay and Cynthia Lewiecki-Wilson. "Refiguring Rhetorica: Linking Feminist Rhetoric and Disability Studies." *Rhetorica in Motion: Feminist Methods & Methodologies*. Eds. Eileen E. Schell and K.J. Rawson. Pittsburgh, PA: University of Pittsburgh Press, 2010.
- Dunn, Patricia A. *Talking, Sketching, Moving: Multiple Literacies in the Teaching of Writing*. Portsmouth, NH: Boynton/Cook Publishers Inc., 2001.
- Dyson, Frances. *Sounding New Media: Immersion and Embodiment in the Arts and Culture*. Berkeley: University of California Press, 2009.
- Ede, Lisa. "Oral History: One Way Out of the Slough of Despond." *CCC* 28.4 (1997): 380-382.
- Elbow, Peter. "The Shifting Relationships between Speech and Writing." *CCC* 36.3 (1985): 283-303.
- . "The Music of Form: Rethinking Organization in Writing." *CCC* 57.4 (2006): 620-666.
- Elliot, George. *Middlemarch*. New York: Bantam Books, 1985: 177-78.

- “Evelyn Glennie Shows How to Listen.” *Ted: Ideas Worth Spreading*. Film. February 2003. Web. April 2007. <[http://www.ted.com/talks/evelyn\\_glennie\\_shows\\_how\\_to\\_listen.html](http://www.ted.com/talks/evelyn_glennie_shows_how_to_listen.html)>.
- Filskov, David. “The Guide to Sound Effects.” *Epic Sound*. Web. 1 December 2012. <<http://www.epicsound.com/sfx/index.php>>.
- Frantz, Donald H. “Music and the Writing Experience.” *College English* 14.2 (1952): 107-110.
- Fuchs, Helmut. *Applied Acoustics: Concepts, Absorbers, and Silencers for Acoustical Comfort and Noise Control*. New York: Springer Publishing Co., 2013.
- Furchgott, Roy. “Skullcandy Crushers Vibrate to Boost Bass.” 12 March 2013. *New York Times Gadgetwise Blog*. Web. 25 March 2013. <<http://gadgetwise.blogs.nytimes.com/2013/03/12/skullcandy-crushers-vibrate-to-boost-bass/?src=twr&smid=tw-nytimes>>.
- gadirez. “Metal\_Bed\_Spring\_Neumann\_RSM191\_GadiRaz.” WAV. *The Freesound Project*. 29 July 2012. 27 March 2013. <<http://freesound.org/people/gadiraz/sounds/161977/>>.
- Gauntlett, David. *Making Is Connecting: The Social Meaning of Creativity, from DIY and Knitting to YouTube and Web 2.0*. Cambridge, UK: Polity Press, 2011.
- gearfreak. “skolegaard.” WAV. *The Freesound Project*. 19 January 2008. 27 March 2013. <<http://freesound.org/people/gearfreak/sounds/47019/>>.
- Gibbs, Tony. *The Fundamentals of Sonic Art & Sound Design*. Singapore: Ava Publishing, 2007.
- Gilroy, Paul. “Driving While Black.” *Car Cultures*. Ed. Daniel Miller. Oxford: Berg, 2001: 96-97.
- “Girl Talk-All Day Sample List.” 8 January 2011. Web. 25 January 2011. <<http://illegalart.net/allday/samples.html>>.
- “Girl Talk Creates a Mashup.” 28 March 2010. *YouTube*. Web. October 2, 2010. <<http://www.youtube.com/watch?v=KykbPtRb0K4>>.
- Glenn, Cheryl. *Unspoken: A Rhetoric of Silence*. Carbondale: Southern Illinois University Press, 2004.
- Glennie, Evelyn. *Good Vibrations*. East Sussex, United Kingdom: Arrow Books Ltd., 1991.
- . The Official Website of Dame Evelyn Glennie. Web. 27 March 2011. <<http://www.evelyn.co.uk/Default.aspx>>.

- . "Hearing Essay." Web. 27 March 2011.  
<<http://www.evelyn.co.uk/Resources/Essays/Hearing%20Essay.pdf>>.
- . Personal Interview. 29 July 2001.
- Goodman, Steve. *Sonic Warfare: Sound, Affect, and the Ecology of Fear*. Cambridge: The MIT Press, 2010.
- Greg. Personal Interview. 16 February 2012.
- Hagood, Mack. "Quiet Comfort: Noise, Otherness, and the Mobile Production of Personal Space." *American Quarterly* Vol. 63.3 (2011): 573-589.
- Halbritter, Bump. "Aural Tools: Who's Listening?" *Digital Tools in Composition Studies: Critical Dimensions and Implications*. Eds. Oviedo, Ollie. O., Joyce R. Walker, and Byron Hawk. Cresskill, NJ: Hampton Press, Inc., 2010: 187-220.
- Handmade Nation: The Rise of DIY Art, Craft, and Design*. Dir. Faythe Levine. Milwaukee DIY Production Company. 2009. Film.
- Hawhee, Debra. *Bodily Arts: Rhetoric and Athletics in Ancient Greece*. Austin: University of Texas Press, 2004.
- Hawk, Byron and Thomas Rickert. Music/Writing/Culture. *Enculturation* 2.2 (1999)  
<[http://enculturation.gmu.edu/2\\_2/toc.html#top](http://enculturation.gmu.edu/2_2/toc.html#top)>.
- Hess, Mickey. "Was Foucault a Plagiarist? Hip-Hop Sampling and Academic Citation." *Computers and Composition* 23 (2006): 280-295.
- "Is Seeing Believing?" 18 October 2010. Horizon. *BBC Two*. Web. 25 March 2013.  
<<http://www.bbc.co.uk/programmes/b00vhw1d>>.
- jakobthiesen. "Garbage truck Hydraulic Arm". WAV. *The Freesound Project*. 28 May 2011. 2 May 2013. <<http://www.freesound.org/people/jakobthiesen/sounds/121202/>>.
- Johnson-Eilola, Johndan, and Stuart A. Selber. "Plagiarism, Originality, Assemblage." *Computers and Composition* 24.4 (2007): 375-403.
- Johnston, James Scott. *Deweyan Inquiry: From Education Theory to Practice*. Albany: SUNY Press, 2009.
- Jones, Douglas R. *Sound of Worship: A Handbook of Acoustics and Sound System Design for the Church*. New York: Focal Press, 2011.
- Jones, Dylan. *iPod, Therefore I Am*. New York: Bloomsbury, 2005.

- Jones, Leigh A. "Podcasting and Performativity: Multimodal Invention in an Advanced Writing Class" *Composition Studies* 38.2 (2010): 75-91.
- Katz, Steven. *The Epistemic Music of Rhetoric: Toward the Temporal Dimension of Affect in Reader Response and Writing*. Carbondale: Southern Illinois University Press, 1996.
- Kaufers, David and Brian Butler. *Designing Interactive Worlds with Words: Principles of Writing as Representational*. Mahwah, N.J. Lawrence Erlbaum Associates, 2000.
- Killingsworth, M. Jimmie. "Product and Process, Literacy and Orality: An Essay on Composition and Culture." *CCC* 44.1 (1993): 26-39.
- Krebs, Stefan. "'Sobbing, Whining, Rumbling': Listening to Automobiles as Social Practice." *Oxford Handbook of Sound Studies*. Eds. Trevor Pinch and Karin Bijsterveld. Oxford University Press, 2012: 79-101.
- Kress, Gunther. *Multimodality: A Social Semiotic Approach to Contemporary Communication*. London: Routledge, 2010.
- LaBelle, Brandon. *Acoustic Territories: Sound Culture and Everyday Life*. New York: Continuum, 2010.
- Levy, Steven. *The Perfect Thing: How the iPod Shuffles Commerce, Culture, and Coolness*. New York: Simon & Schuster, 2006.
- lolamadeus. "Dry flowers and twigs rustling." WAV. *The Freesound Project*. 13 July 2012. 27 March 2013. <<http://freesound.org/people/lolamadeus/sounds/161218/>>.
- "London Sound Survey." Web. 20 June 2011. <<http://www.soundsurvey.org.uk/index.php/survey/soundmaps/>>.
- Lunsford, Andrea. "Writing Technologies, and the Fifth Canon." *Computers and Composition* 23(2006): 169-177.
- . and Adam Rosenblatt. "'Down a Road and into an Awful Silence': Graphic Listening in Joe Sacco's Comics Journalism." *Silence and Listening as Rhetorical Arts*. Eds. Cheryl Glenn and Krista Ratcliffe. Carbondale: Southern Illinois University Press, 2011: 130-146.
- Luvaas, Brent. *DIY Style: Fashion, Music, and Global Digital Cultures*. London: Berg, 2011.
- "Maker Faire." March 20, 2013. <<http://makerfaire.com/>>.
- "Making Maps: DIY Cartography." Web. 14 August 2012. <<http://makingmaps.net/2008/03/25/making-maps-with-sound/>>.

- Mariage Blanc. "Origami." *Mariage Blanc*. Self-Published, 2010. CD.
- Mauss, Marcel. "Techniques of the Body." *Incorporations*. Eds. Jonathan Crary and Sanford Kwinter. New York: Zone Books, 1992.
- McCarthy, John and Peter Wright. *Technology as Experience*. Cambridge: The MIT Press, 2004.
- McElvain, Marcia L. "The Creative Process: The Relationship of the Musical and Literary Composer." *CCC* 19.2 (1968): 128-132.
- moshverhavick. "Creaking Hide a Bed Couch." WAV. *The Freesound Project*. 12 November 2011. 27 March 2013.  
<<http://freesound.org/people/moshverhavick/sounds/134084/>>.
- Munster, Anna. *Materializing New Media: Embodiment in Information Aesthetics*. Hanover, NH: Dartmouth College Press, 2006.
- "The Music of Sound." Tim Prebble, Creator. Web. 18 August 2012.  
<<http://www.musicofsound.co.nz/blog/sound-maps>>.
- Nauer, Barbara. "Soundscript: A Way to Help Black Students to Write Standard English." *College English* 36.5 (1975): 586-588.
- "nysoundmap." New York Society for Acoustic Ecology. Web. 20 June 2011.  
<<http://www.nysoundmap.org/>>.
- OK8. "alarm." MP3. *The Freesound Project*. 28 August 2010. 2 May 2013.  
<<http://www.freesound.org/people/OK8/sounds/103795/>>.
- "Open Sound New Orleans." 2009. Heather Booth and Jacob Brancasi, Project Directors. Web. 13 September 2011. <<http://www.opensoundneworleans.com>>.
- Özcan, Elif and René Van Egmond. "Product Design: An Interdisciplinary Approach?" *Undisciplined! Proceedings of the Design Research Society Conference* Sheffield, UK. Web. July 2008. <<http://shura.shu.ac.uk/531/1/fulltext.pdf>>.
- Palmeri, Jason. *Remixing Composition: A History of Multimodal Writing Pedagogy*. Carbondale: Southern Illinois University Press, 2012.
- Porcello, Thomas. "Speaking of Sound: Language and the Professionalization of Sound-Recording Engineers." *Social Studies of Science*. 34 (2004): 733-758.
- Price, Margaret. "Disability: A Nondisabled Student Works the Hypen." *CCC* 59.1 (2007): 53-76.
- Pullin, Graham. *Design Meets Disability*. Cambridge: The MIT Press, 2009.

- Ratcliffe, Krista. *Rhetorical Listening: Identification, Gender, Whiteness*. Carbondale: Southern Illinois University Press, 2005.
- Rice, Jeff. "The Making of Ka-Knowledge: Digital Aurality." *Computers and Composition* 23 (2006): 266-279.
- Rickert, Thomas. "Music@Microsoft.Windows: Composing Ambience." *The Writing Instructor* (2010) <<http://www.writinginstructor.com/rickert>>.
- , and Michael Salvo. "The Distributed *Gesamtkunstwerk*: Sound, Worlding, and New Media Culture." *Computers and Composition* 23 (2006): 296-316.
- Robare, Paul. "Sound in Product Design." Web. 13 March 2013. <[http://www.paulrobare.com/files/Robare\\_Essay.pdf](http://www.paulrobare.com/files/Robare_Essay.pdf)>.
- Rosenhouse, G. *Active Noise Control: Fundamentals for Acoustic Design*. Southhampton, UK: Wessex Institute of Technology Press, 2001.
- Royster, Jacqueline Jones. "When the First Voice You Hear Is Not Your Own." *CCC* 47.1 (1996): 29-40.
- Salvo, Michael. "Deafened to their Demands: An Ethnographic Study. *Kairos* 7.1 (2002) <<http://kairos.technorhetoric.net/7.1/binder2.html?coverweb/salvo/map.htm>>.
- Samiam91486. "Sound Design Documentary for 'In Your Dreams'—Part 1." *YouTube*. 31 January 2010. Web. 13 November 2013. <<http://www.youtube.com/watch?v=0h05HpTte3U>>.
- . "Sound Design Documentary for 'In Your Dreams'—Part 2." *YouTube*. 31 January 2010. Web. 13 November 2013. <<http://www.youtube.com/watch?v=yOwaDzcgSnA&list=UU-LrQfxc-Y7HaQp68e1LJ8w&index=6&feature=plcp>>.
- Sawyer, Thomas M. "Why Speech Will Not Totally Replace Writing." *CCC* 28.1 (1977): 43-48.
- Sayers, Jentery. "Tinker-Centric Pedagogy in Literature and Language Classrooms." *Approaches to the Digital in English Studies*, Ed. Laura McGrath. Utah State University Press Computers and Composition Digital Press, 2011: 279-300.
- Schafer, R. Murray. *The Soundscape: Our Sonic Environment and the Tuning of the World*. 1977. Rochester, VT: Destiny Books, 1994: 12.
- Selfe, Cynthia. "The Movement of Air, the Breath of Meaning: Aurality and Multimodal Composing." *CCC* 60.4 (2009): 616-663.
- , and Gail E. Hawisher, Eds. *Multimodal Composition: Resources for Teachers*. Cresskill, NJ: Hampton Press, 2007.

- “Seminar in Composition Staff Syllabus.” University of Pittsburgh Composition Program. English Department. 2009.
- Sennett, Richard. *The Craftsman*. New Haven: Yale University Press, 2008.
- Shadowlock. “iPod-iTunes Commercial: Dance.” *YouTube* 30 Nov. 2007.  
<<http://www.youtube.com/watch?v=64ue0LjcV-E>>
- Sheller, Mimi. “Automotive Emotions: Feeling the Car.” *Theory, Culture, & Society* 21.4/5 (2004): 221-237.
- Shepard, Mark. “Tactical Sound Garden.” 2006. Web. 2 April 2013.  
<<http://www.tacticalsoundgarden.net/>>.
- Shipka, Jody. “Sound Engineering: Toward a Theory of Multimodal Soundness.” *Computers and Composition* 23 (2006): 355-373.
- . *Toward a Composition Made Whole*. Pittsburgh, PA: University of Pittsburgh Press, 2011.
- Sirc, Geoffrey. “Never Mind the Tagmemics, Where’s the Sex Pistols?” *CCC* 48.1 (1997): 9-29.
- . *English Composition as a Happening*. Logan, Utah: Utah State University Press, 2002.
- . “Box-Logic.” *Writing New Media: Theory and Applications for Expanding the Teaching of Composition*. Ed. Anne Wysocki. Logan: Utah State University Press, 2004.
- Sloan, Gary. “The Subversive Effects of an Oral Culture on Student Writing.” *CCC* 30.2 (1979): 156-160.
- Snipes, Wilson Currin. “Oral Composing as an Approach to Writing.” *CCC* 24.2 (1973): 200-205.
- Spencer, Amy. *DIY: The Rise of Lo-Fi Culture*. London: Marion Boyars, 2008.
- Sterne, Jonathan. “Sounds like the Mall of America: Programmed Music and the Architectonics of Commercial Space.” *Ethnomusicology* Vol. 41.1 (1997): 22-50.
- . “Sonic Imaginations.” *The Sound Studies Reader*. Ed. Jonathan Sterne. New York: Routledge, 2012.
- Stockfeld, Ola. “Cars, Buildings, Soundscapes.” *Soundscapes: Essays on Vroom and Moo*. Ed. H. Jarviluoma. Tampere, Finland: Tampere University Press, 1994: 33.
- Szendy, Peter. *Listen: A History of Our Ears*. New York: Fordham University Press, 2008.

- Taimi, Michael. "BMW Luxury Car Commercial 2D." *YouTube*. 23 September 2011. Web. 13 November 2013. <<http://www.youtube.com/watch?v=t7d528bYisg>>.
- Thompson, Emily. *The Soundscape of Modernity: Architectural Acoustics and the Culture of Listening in America, 1900-1933*. Cambridge, MA: The MIT Press, 2002.
- "Todd Selby x Christine Sun Kim." *Nowness*. Web. 9 November 2011. <<http://www.nowness.com/day/2011/11/9/1700/todd-selby-x-christine-sun-kim>>.
- Toker, Franklin. *Pittsburgh: an Urban Portrait*. Pittsburgh, PA: University of Pittsburgh Press, 1986.
- Touch the Sound: A Sound Journey with Evelyn Glennie*. Dir. Thomas Riedelsheimer. Docudrama, 2005. DVD.
- Trower, Shelley. "Vibratory Movements." *Senses & Society* 3.2 (2008): 153–168.
- . *Senses of Vibration: A History of the Pleasure and Pain of Sound*. New York: Continuum, 2012.
- Urry, John. "Inhabiting the Car." *Sociological Review* (2006): 17-31.
- VanHemert, Kyle. "GE's New Emphasis on Appliances: Sound Design." *Fast Company*. 6 December 2012. Web. 26 November 2013. <<http://www.fastcodesign.com/1671333/ges-new-emphasis-in-appliances-sound-design>>.
- Wilson, James and Cynthia Lewiecki-Wilson, Eds. *Embodied Rhetorics: Disability in Language and Culture*. Carbondale: Southern Illinois University Press, 2001.
- "The World Soundscape Project." Web. 7 July 2010. <<http://www.sfu.ca/~truax/wsp.html>>.
- Zaluda, Scott. "Sophisticated Essay: Billie Holiday and the Generation of Form and Idea." *CCC* 42.4 (1991): 470-483.
- Zdenek, Sean. "Accessing Podcasting: College Students on the Margins in the New Media Classroom." *Computers and Composition Online* (2009) <<http://seanzdenek.com/article-accessible-podcasting/>>.
- Zoellner, Robert. "Talk-Write: A Behavioral Pedagogy for Composition." *College English* 30 (1969): 267-320.