Title
What is "Live"? Interactions that Shape Music Experiences

Author
DeLozier, Esther Luna

Publication Date
2023

Peer reviewed|Thesis/dissertation

What is “Live”? Interactions that Shape Music Experiences

By

ESTHER LUNA DELOZIER
DISSERTATION

Submitted in partial satisfaction of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

Ethnomusicology

in the

OFFICE OF GRADUATE STUDIES

of the

UNIVERSITY OF CALIFORNIA

DAVIS

Approved:

Henry Spiller, Chair

Beth E. Levy

Juan Diego Díaz

Committee in Charge

2023

ABSTRACT

Before the development of recording and broadcasting technologies, the experience of music was ephemeral. Back then, the term *live* was unnecessary because to experience music meant to be physically present at an event. Media such as radio, television, and the internet, however, have since challenged people's understanding of *liveness*, for instance, by using the word *live* to describe performances recorded in front of an audience and transmitted at a different location, simultaneously or later. Over the past two decades, routine advances in high-quality audio recording technology threatened the point and popularity of in-person live music performances, yet the appetite for such events has persisted and even flourished. In this dissertation, I examine the production and reception of live music within the context of a regional performing arts center, specifically, the Robert and Margrit Mondavi Center for the Performing Arts (Mondavi Center) located on the campus of the University of California, Davis. Founded on the conviction that music is primarily a social practice, my dissertation examines the interactions that create live performances, with special attention to the influence of the physical and operational characteristics of the venue—in this case, the Mondavi Center. My data was gathered during performances in a variety of music styles that were part of the 2019-2020 Mondavi Center season. Using the participant-observer method, supplemented with audience surveys, autoethnography, and interviews with musicians and members of the audience, I sought connections and interactions between musicians and their audiences, among musicians, and among members of the audience. I originally intended my research to focus exclusively on the live music experience at the Mondavi Center. However, the COVID-19 pandemic, which forced live music venues to rethink audience attraction and engagement, provided an opportunity to

expand the field of my research to a variety of virtual settings, namely a website, a computer game, and concert venues accessed through a virtual reality headset.

In this dissertation, I develop a theoretical framework for thinking about the live interaction between musicians and their audiences which I call the "Energy Transmission Loop." The Energy Transmission Loop is a representation of how members of the audience and artists influence each other during a performance. This framework is based on the kinds of interactions, levels of musical immersion, and manifestations of intimacy that each setting provides. My examination of the music experience in the digital domain led me to refine my framework. I expand the notion of the Loop to interpret interactions that develop asynchronously by means of an "Energy Transmission Spiral." Through the Energy Transmission Loop and the Energy Transmission Spiral, I illustrate the characteristics of the audience-musician interactions that occur in an in-person live music experience and in a variety of virtual live music experiences. Technological advances will continue to facilitate access to an increasing array of mediated music experiences; in this dissertation I propose that a more nuanced understanding of the significance of the concept of liveness in relation to music, which recognizes key connections and interactions as integral elements, can lead to innovative and effective approaches to production, programming, marketing, and preservation of music experiences.

ACKNOWLEDGEMENTS

The Chinese proverb, “A journey of a thousand miles begins with a single step,” aptly depicts my experience as a doctoral student and more specifically the writing and completion of this dissertation. Conceptualizing, developing, and communicating an idea through writing is a journey, and an arduous one at times. In such a journey, every step is different, some are taken with agility and ease and others are labor intensive processes in which getting to the next footing can take hours, sometimes days. I was empowered to endure my journey by many people. In fact, this journey of over 80,000 words could have only been done with the support of others and this is my chance to formally acknowledge my appreciation.

For guiding me on how to navigate this journey with academic elegance and style while staying true to myself, I am deeply indebted to my advisor, Henry Spiller. There are not enough words to express my gratitude for all the time and knowledge he has devoted to and invested in me. Henry, from the beginning of this journey you have believed in me and encouraged me to explore different and less-traveled paths. You have patiently allowed me to formulate my own ideas and provided sound and clear recommendations on how to best communicate them. More than an advisor, you have been a mentor who has valued my perspectives and with honesty and candidness has contributed to my growth not only academically but as a human being.

For reading and providing feedback on my writing, I am extremely grateful to the members of my dissertation committee. Professor Beth E. Levy, your care and dedication to the students is admirable and commendable. You truly live a life of service for the good of students. One of many examples is the dissertation writing group that you created. This group sustained me on my writing journey and was a constant source of motivation and accountability for me.

Professor Juan Diego Díaz, I am constantly inspired by your intense desire to contribute to the advancement of the field of ethnomusicology; your love for the field is palpable and motivating.

For selflessly sharing so much knowledge with me, I am thankful to the music department's faculty. The beauty of this department lies in the opportunity to interact at any given moment with composers, musicologists, and ethnomusicologists. These perspectives served me as footings to consider and develop different approaches. I sincerely appreciate your willingness to engage with my ideas in spontaneous conversations and some of you through more formal interviews. You all helped me see that there is an abundance of possible paths to take along the way.

For going through the journey with me making it fun and bearable, I would like to thank my cohort and peers in the music department, especially Elizabeth Campbell, Chris Castro, Josiah Catalan, Gillian Irwin, Jeong-In Lee, Sarah Messbauer, Jonathan Minnick, Dave Roby, Ryan Suleiman, Emily Sullivan, Joseph Vasinda, and Andressa and Davin Vidigal Rosenberg. I have learned so much from you and I owe you my sanity and social well-being!

For lending an ear and a space for me to pause and recalibrate, I am grateful to the support provided by the music department's graduate coordinator, Marian Bilheimer. Thank you for always being empathetic, understanding, and fun!

For welcoming my presence and supporting my research, I would like to express my deepest gratitude to the Mondavi Center's staff during the 2019-2020 season, especially Jenna Bell, Laurie Espinoza, Jeremy Ganter, Jessica Grimm, Liz King, Rajiv Laffey, Christopher Oca, Ruth Rosenberg, Don Roth, and Rob Tocalino. The support I received from this staff included providing me with the tickets to most of the performances, arranging interviews with artists, giving me the space to interview audience members, and making time to engage with me in

conversations. Their generosity enabled me to collect most of the information I present on these pages. My gratitude also extends to the artists and members of the audience who graciously dedicated time to speak with me, sharing insightful and enriching descriptions of their live music experiences.

For lending an ear to vent and a shoulder to cry on, I am thankful to my friends outside the music department, especially Milagros Cáceres, Maggie Gonzalez, Chrissy Kelly, Angela Nazarian, Alejandro Oropeza, Kate Sedillo, and Dulce Vega. You have always been there for me.

Por inculcar en mi la pasión por aprender, escuchar con atención, y perseverar en mis metas, quiero agradecer a mis padres. Gracias, Mamu y Papu, por enseñarme que con dedicación y esmero puedo lograr todo lo que me proponga.

For providing unconditional support throughout this journey, I am forever grateful to my "Irish sister," Mary Power. From the moment I applied to graduate school, you have continuously cheered me along, reminded me that writing is a process, and encouraged me to find and use my own voice.

For being with me on every step of the journey, I dedicate this dissertation to my partner in life Greg and our son Max. Both of you have been my light in the darkest moments, and your contagious smiles and warm hugs have carried me through the most difficult times. You keep me grounded in life and make me realize that every step, big or small, counts. Thank you for supporting me and letting me share my love of learning with you.

CONTENTS

FIGURES

INTRODUCTION

For me, the live music experience is incomparable. I have vivid memories in which I relive specific moments of a live performance. In such memories, I remember and cherish the place, the artists, the sound, and those who accompanied me. This dissertation is built on my examination of the live music experience. I began my research with the premise that the term *live* refers to events where the audience and the performers share the same physical space at the time of the performance. However, technological developments have challenged such a premise by appropriating the word *live*, for example, to describe music performances in computer-simulated spaces that I refer to as virtual settings. My analysis addresses the question, what can we know about the live interaction between artists and their audience and how can we know it? I contend that what makes a music experience live are the interactions created within it. These interactions develop in a shared space, and they are synchronous and collective in nature as they happen between musicians and their audience, as well as among musicians and among members of the audience.

Originally, for my dissertation, I planned to examine the value of the live production and reception of music within the context of a regional performing arts center, specifically, the Robert and Margrit Mondavi Center for the Performing Arts (Mondavi Center), located on the campus of the University of California, Davis. Having previously worked in the music recording industry, I was keenly aware that recording and broadcasting technologies had modified the music listening practices of those with access to these technologies, for instance, through the mediation of the audio and visual reproduction of live music performances. In addition, the internet has allowed its users on-demand access, often for no obvious added cost, to many of those recorded performances. Given such ease of accessibility to recorded music, I wanted to

know, what is the role of a regional performing arts center, the purpose of which ostensibly is to provide its constituent communities with comprehensive facilities for the experience of live performances? What is the value of experiencing music live in a world marked by electronic media? How might we assess the individual and collective value of experiencing a live music performance in such venues? These are some of the questions that launched and continue to drive my research.

During my fieldwork, the world abruptly changed. This radical alteration was brought about by an infectious disease known as Coronavirus (COVID-19) caused by the SARS-CoV-2 virus. For an unpredictable amount of time, attending live music performances was no longer a possibility. Due to the presence of the virus in such a "widespread geographic extension," it was categorized as a global pandemic (Morens, Folkers, and Fauci 2009, 1021). In the United States, according to the Centers for Disease Control and Prevention, the first cases of COVID-19 were identified and confirmed on January 20, 2020. Less than two months later, the World Health Organization declared COVID-19 a global pandemic on March 11, 2020, and on March 13, the then President of the United States, Donald J. Trump, declared a national emergency.[1] These declarations signaled the need to implement special measures to prevent or minimize the spread of the virus. In California, the state where I lived at the time of my research, the governor issued stay-at-home orders asking residents "to only leave their homes when necessary and shutting down all but essential businesses."[2] In the United States, everyday life activities were altered. Physical and social distancing measures overnight isolated individuals in their homes, wherein they had to figure out ways to simulate the office, school, church, restaurant, and concert hall. For musicians and all the personnel whose work revolved around the live music industry, the

[1] https://www.cdc.gov/museum/timeline/covid19.html (Accessed March 5, 2022).
[2] Ibid.

COVID-19 pandemic brought economic challenges (Polivtseva 2020; Sullivan 2020). Out of these precarious situations, however, musicians repurposed their creativity to realize alternative scenarios. Utilizing pre-existing digital technologies to practice, record, and stream performances became the means to create and/or maintain a connection with their audiences (see, for example, Barone 2020; Hadhazy 2020).

The COVID-19 pandemic was a crisis that struck at the core of my research. No one could have foreseen the many ways that a global pandemic would help me refine my research questions about live music. The closure of physical concert venues caused by the pandemic drove me to expand my fieldwork and explore the notion of *liveness* for music performances in virtual settings. It was through the exploration of three virtual settings, namely a website, a computer game, and concert venues accessed through a virtual reality headset, that new perspectives on liveness, which include the significance of being together and interacting with one another in the live music experience, became evident to me. Accordingly, the focus of my dissertation is split between in-person live music performances at the Mondavi Center before the COVID-19 pandemic (covered in the first three chapters) and virtual live music experiences during the pandemic (in Chapter Four). I thus theorize two kinds of live music experiences: *virtual* and *in-person.* In this introduction, I (1) explore the notion of *liveness* by reviewing previous literature and presenting my own theoretical model to facilitate its understanding; (2) describe my ethnomusicological approach to the research; and (3) provide an overview of the chapters that make up the dissertation.

Exploring Liveness

Theater and film scholar Philip Auslander pinpoints 1934 as the year in which the word *live* was first registered in the *Oxford English Dictionary* to describe a performance (2008, 58; see the *Oxford English Dictionary* 1989). Auslander argues that "Recording technology brought the live into being" (Ibid., 59) since experiencing music and artistic expressions in general were, before the development of the recording technology, a one-time experience unable to be reproduced.[3] Thus, the word *live* emerged when people began to experience music through mediated performances (recordings) in which the members of the audience were separated from the original time and space of the performance. In addition, the development of the radio furthered the contrast by allowing individuals to experience "live" music from the comfort of their own home (Taylor 2005, 260). Therefore, the term *live* is often used as synonymous to live-recording, an event such as a music performance or a television show created and transmitted, mostly unedited, as it is happening. Often these events are recorded in front of an audience, and, thanks to broadcast or streaming services, people can tune in from a different location and/or at a different time.

In the 1970s, Memorex launched its iconic "Is it live or is it Memorex" ad campaign to promote the then revolutionary technology of the cassette tape. In one of the commercials, while present in a studio setting with renowned jazz vocalist Ella Fitzgerald, celebrated arranger and composer Nelson Riddle was asked to discern whether he was listening to a recording or to the singer herself. Riddle, who had previously worked with Fitzgerald, answered that what he heard was Ella singing live (albeit through the speakers, instead of a recording).[4] This answer attests to

[3] Similar approaches defining such a live experience have been proposed by Attali ([1977] 1985), Auslander (2008, 3-4), Connell and Gibson (2003, 280), Greene et al. (2018), Holt (2010, 245), Jones and Bennett (2015, xi-xiii), Katz (2004, 14-47), Kjus (2018, 1-7), and Turino (2008, 23-65).
[4] https://www.youtube.com/watch?v=1-IvTF0xUxM (Accessed April 16, 2020).

the quality of the sound that a Memorex cassette was capable of reproducing by characterizing the sound as "live."

Sound recording and reproduction technologies had developed considerably before the breakthrough of the cassette tape and have continued to do so to this day. These technological developments, as demonstrated in the Memorex commercials, have always aimed to capture and reproduce sound matching the quality and characteristics of its origin, all the while making it accessible to a wider consumer base. Many consumers do indeed appreciate having access to audio recordings and the equipment to listen to them at a time and a place of their choice.

The term *live* is widely used in the entertainment and music industry. Many television shows, for instance, conspicuously announce that they are providing a "live" transmission. The famous introductory line for the long-lived NBC show, "Saturday Night Live"— "Live from New York, it's Saturday Night!"— is a case in point (even though West Coast viewers saw the show three hours after its putatively "live" broadcast). Similarly, a wide variety of music performances are also advertised as "live" on websites such as YouTube. However, when I watch *Saturday Night Live* at home, the statement suggests that I am enjoying a live-broadcast of the show—which is true only if I tune in at the exact time of the show's originally airing, usually on Saturdays at 8:30pm pacific time. If I watch the show at any other time, then I would be watching a rebroadcast of a live recording. Leaving aside these crucial time delays, my experience of liveness is also mediated by a variety of technological devices, such as cameras, microphones, satellite dishes, and cables, that remove me from any direct experience of "live"ness.

Before the development of recording and broadcasting technologies, experiencing music was ephemeral. Once performed and experienced, the traces of live music (and other

performances) were available only in listeners' memories. Media such as radio, television, and the internet, however, have since challenged people's understanding of liveness by using the term *live* to describe performances recorded in front of an audience and transmitted to be experienced simultaneously from a different location and/or at a later time. In addition, from phonograph cylinders through reel-to-reel tape decks, compact disc players and iPods, to YouTube, there has been an increase in the variety and number of devices and protocols that allow people to watch and listen to pre-recorded and even "live" transmitted versions of performances from any location.

Given the ease of access to recordings and listening equipment, why do musicians continue to offer live music performances and why do audiences continue to participate in them? This is one of the questions I explore in the first three chapters of this dissertation. As stated, this first part of my dissertation explores the word *live* in events where the audience and the performers share the same physical space at the time of the performance. I contend that regardless of the quality of a person's audio-visual equipment, people seek the experience of an artist "in the flesh" within the space of a venue dedicated for such a collective experience. I aim to discuss the dynamics of this kind of live experience, focusing on the collective sensorial field that typically emerges in these contexts. When my focus shifts to liveness in the digital domain, I underline the distinctions of experiencing a live performance with others synchronously versus asynchronously and within the same virtual space instead of the physical space. Whether physical or virtual, sharing the space with others is what characterizes the live music experience as collective.

Collective Experience

Everything that takes place during a live music performance is part of an *experience.* In relation to music, according to ethnomusicologists Martin Clayton et al., *experience* refers to the phenomenal aspects that occur during a musical event, "what people actually do, and what they feel, while engaging in music" (2013, 1). This definition of experience in reference to musical events does not differentiate between audience and performer(s) implying that, even though what people do and feel could be individual and internal, everyone involved engages with the music in a *collective* manner. All the individuals are united by being there in the presence of the music. As an adjective, the word *collective* describes a characteristic that is common among a group of individuals. While there are many individuals involved in the live music experience, including ushers, audio engineers, lighting designers, and custodial personnel, in this dissertation I categorized them into two groups, namely audience and performers. Even though the roles of these two groups are not the same, in a live performance, they are both experiencing music in the same place and at the same time. What does an analysis of the collective experience in a live music performance entail? This is a foundational question that has guided my research. In this section, I introduce a few of the scholars whose studies have influenced my approach to examining the live music experience as a collective endeavor. Instead of writing a single literature review on the subject, I will continue to refer to published works on the topic throughout the dissertation.

Published in 1964, Alan Merriam's book, *The Anthropology of Music,* introduces his tripartite ethnomusicological model of the study of music. The three analytic components of the model, namely "conceptualization about music, behavior in relation to music, and music as sound itself," interact at the same level of analysis and work in relation with one another (32-33).

Through his model, Merriam highlights the importance of human behavior as "a prerequisite for producing sound" (Ibid., 14), and identifies four major types of behaviors, namely physical, vocal, social, and learning (Ibid., 103). According to Merriam, these behaviors are responsible for the development of the musical event, and they differ between the performing musicians producing the sound and those receiving the sound.

After Merriam, many scholars have examined the behaviors of the audience and the performers; however, there has been a tendency to focus on the perspective of one or the other and not on how they collectively influence each other. For instance, Judith Becker's *Deep Listeners* analyses the listener's experiences from both scientific and philosophical perspectives (Becker 2004); Benjamin Brinner's theory of musical interaction discusses the musicians' "competence and interactions" when playing music (Brinner 1995); and Martin Clayton's study of musical entrainment combined with musical ethnography also concentrates on the musicians' experience (Clayton 2013). While these ethnomusicologists treat the live music experience in a compartmentalized fashion from either the standpoint of audiences or performers, their approaches, and findings, among many others, have served as groundwork for my research.

In "Listening, Mediation, Event: Anthropological and Sociological Perspectives," musicologist Georgina Born (2010) calls for a broader approach to the study of listening and begins by proposing a terminological shift from "listening" to "musical experience." This change allows "for questions of the corporeal, the affective, the collective, and the located nature of musical experience (aka listening) to arise in a stronger way than heretofore" (Ibid., 80). More importantly, Born argues that the term *musical experience* breaks down the listener-performer division of roles and includes everyone involved (Ibid., 82). I share Born's conviction that there is a collective aspect to a musical experience that includes audience and performers. However, I

add the word *live* to Born's concept, to highlight the musical experience that happens when there is interaction between artists and audience and among members of the audience while sharing the space during a specific time. Additionally, in my work, I argue that both audience and performers are listeners and, unless specified, I use the word *listeners* as a collective musical experience that includes the corporeal and the affective.

In my research, I examine the collective experience during a live performance mindful of scholarly research on crowds and collective behavior. One of such research studies is the work of social psychologist Gustave Le Bon. Published in 1895, in *The Crowd: A Study of the Popular Mind,* Le Bon argues that crowds are irrational and unpredictable because in a crowd, the individual becomes vulnerable to the influence of others. He explains that "In a crowd every sentiment and act is contagious, and contagious to such a degree that an individual readily sacrifices his personal interest to the collective interest" ([1895] 2009, 35). However, twentieth-century scholars, such as sociologist Clark McPhail, criticize Le Bon's ideas about the influence of crowds on individuals as being built on dubious theories (1991, 13-20). McPhail distinguishes between crowds—which he refers to as "gatherings"—and collective behavior. Through his fieldwork observing political, sports, and religious demonstrations between 1967 and 1987, he argued that unanimous action in crowds is "rare" and instead, "assembled gatherings merely provide the opportunity for sequences of collective behavior to occur" (Ibid., 162). He defines collective behavior as "two or more persons engaged in one or more behaviors (e.g., locomotion, orientation, vocalization, gesticulation, and/or manipulation) judged common or concerted on one or more dimensions (e.g., direction, velocity, tempo, or substantive content)" (Ibid., 159, punctuation altered). In other words, for McPhail, a crowd is a collection of individualities, and it does not behave as homogeneously as Le Bon proposed.

Yet, Le Bon's crowd theory has continued to be used by researchers who study online crowds. For example, media and cultural studies scholar Carsten Stage tested Le Bon's theoretical conceptualization of the crowd in his analysis of online interactions with a blogger in response to her blog postings on social media from 2006 to 2010. Stage defines an online crowd as "the *affective unification and relative synchronization of a public in relation to a specific online site"* (2013, 216). Applying LeBon's description of crowd psychology, Stage argues that blogs serve as virtual gathering points for crowds even when de-synchronized (Ibid., 220).

The drastic alteration of social interaction caused by the COVID-19 pandemic has prompted researchers to reevaluate theories about crowd and collective experiences including behaviors and emotions. An example of such work was conducted by sociologists Jordan McKenzie et al. in "Mass Emotional Events: Rethinking Emotional Contagions after COVID-19." They propose thinking of emotional contagion propelled by events such as the COVID-19 pandemic as "mass emotional events" due to their magnitude in terms of the number of individuals impacted and the rapid, possibly synchronous, spread of its impact. They explain that "mass emotional events suggest the possibility of contagion in the *absence* of contact" (McKenzie et al. 2022, 78). The contagion and suggestibility effect that characterizes a crowd (in-person or online) is part of the collective music experience and I reference it throughout the dissertation, especially in Chapters One and Four.

Experiencing at home a virtual music performance may be associated with an experience that offers flexibility, independence, and freedom in terms of time spent (one can start and stop watching or listening at any point), as well as privacy and social distancing. However, people always have found value in the in-person live music experience. In analyzing the impact of technological advances of art reproduction on "artistic processes," philosopher Walter Benjamin,

in his essay "The Work of Art in the Age of Mechanical Reproduction," highlights the difference between artistic expressions that are live and mediated. He affirms that "Even the most perfect reproduction of a work of art is lacking in one element: its presence in time and space, its unique existence at the place where it happens to be" ([1936] 2007, 220). For Benjamin, the element of presence involving time and space is captured in what he calls the "aura" which is found only in the original version of the artistic form (Ibid., 221). Benjamin considers the aura as "the prerequisite to the concept of authenticity" (Ibid.). Benjamin uses the term *authenticity* in reference to what in my research I call the live music experience. Fundamentally, Benjamin is arguing that to appreciate or experience art the admirer must be face-to-face, co-present in time and space with the artistic expression. He maintains that the essence and unique aesthetics or "aura" of a work of art constitute its ritual value. This ritual value relates to the social practices and behaviors associated with experiencing an art form.

Through his understanding of ritual as a process, Victor Turner, like Benjamin, extends the concept of ritual beyond any religious associations (1969). Turner explains ritual practices as "liminal areas of time and space" (1969, vii) in which entities are "betwixt and between the positions assigned and arrayed by law, custom, convention, and ceremonial" (Ibid., 95). Realizing that ritual practices differ among societies, Turner introduced the term "liminoid," to describe ritual-like activities that occur and are often central, yet not required, in some societies (1974, 84-86). Thus, going to see a live performance activates the liminoid phenomena in the sense that there are ritualistic behaviors which individuals are expected to follow, but the action of attending the performance is optional. Other scholars have framed the life experience as liminoid. For example, being in this state of liminality is what sociologist Claudio Benzecry considers one of the main reasons for individuals to attend opera performances at the Teatro

Colón in Argentina. Through his ethnographic work, he attests that "enjoying opera at the Colón relates to it being an island in time and space" in which the audience breaks away, albeit temporarily, from the "impoverishment of the country" as well as from personal problems (2011, 13). Essentially, experiencing music in the Teatro Colón serves as an escape from quotidian life. The experience in that space becomes an "island" between the harshness of reality and a problem-free but ephemeral world. In his research, Benzecry corroborates the association between the live experience and the concepts of time and space in which it occurs (I explore both concepts respectively in Chapters Two and Three). It is this specific weave of space and time experienced collectively in a live music performance that facilitates the creation of what I call the "Energy Transmission Loop."

Energy Transmission Loop

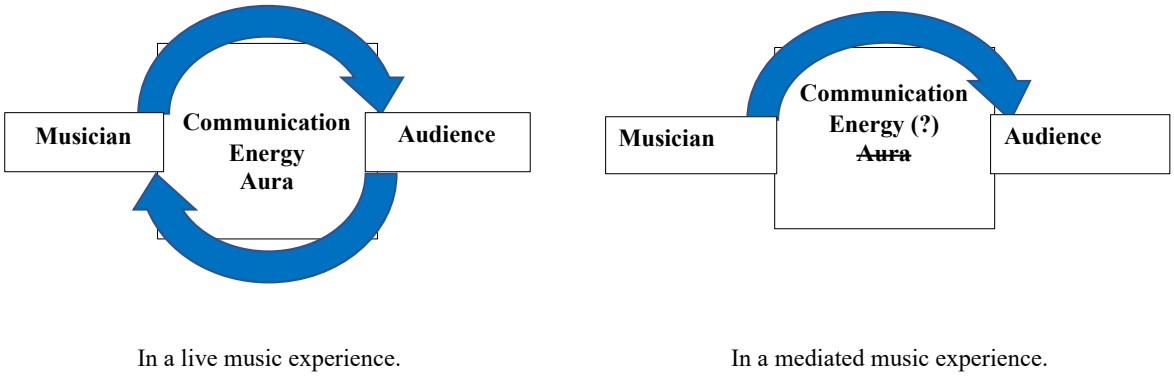
In *Thinking in Jazz,* ethnomusicologist Paul Berliner describes the relationship jazz musicians have with their audience as a "communication loop." The jazz musicians whom Berliner interviewed recognized that an audience is necessary for a performance, or as musician Curtis Fuller states, "No audience, no conversation. If I wasn't concerned with the audience, I might as well stay in a room alone and practice" (1994, 458). In his comment, Fuller highlights how the presence of an audience transforms a music-making practice into a music-making performance. In approaching the audience-performer interaction as a conversation, Berliner elaborates, explaining that "Performers and listeners form a communication loop in which the actions of each continuously affect the other" (Ibid., 459). Based on my examination of a variety of live music performances, I will address the continued vitality of live music performances by stressing the significance of a mode of communication that occurs in the live music experience.

Such communication goes beyond the production and reception of sound. The live music experience is one that engages the body beyond listening; it is a whole-body experience for both the musician and the audience, and this is one of the main incentives why both groups continue to support it.

I approach the interaction between musicians and their audience as a communication exchange. Communication in this context should be understood as musicologist Charles Seeger defined it, "transmission of energy in a form" (1977, 19). Seeger's definition highlights the fact that when referring to music, communication goes beyond the "discoursive mode," or the mere exchange of words; it includes the "affective mode," one in which the experience is not sufficiently expressed through speech (Ibid., 18). I interpret Seeger's use of the word "energy" in his definition as a corroboration of the affective mode since the communication that occurs through music is not limited to speech. Following Seeger's definition, and borrowing from Berliner's description, I propose to examine the musician-audience interaction during the live music experience in the form of what I call the "Energy Transmission Loop" (see Figure 0.1).

The Energy Transmission Loop is completed in a live music performance. When the music is mediated, the energy generated by the artist(s) does not fully reach the audience on the other side of the mediating device(s). The absence of the physical audience does not allow for the loop to be completed. In other words, the incompletion of the loop is due to the fact that, at its most basic level, while the musician is communicating the music, the audience experiencing the mediated performance does not have the opportunity to synchronously communicate with the musician. Using Walter Benjamin's terminology, there is no "aura" ([1936] 2007, 221).

Figure 0.1 Audience-Musician Energy Transmission Loop



In a live music experience.

In a mediated music experience.

This representation is very basic as it does not consider factors that could potentially disrupt or attenuate the strength of the loop during a live music performance. In the Energy Transmission Loop, everything the artists do and feel on stage influences their performance and the experience of the audience. Similarly, everything the audience does while the artists are on stage has a potential effect on the artists and on the experience of other members of the audience. This means that the loop may not always be completed, even in a live event. The first three chapters of this dissertation explore factors that influence the Energy Transmission Loop during in-person performances. In the fourth chapter, I expand the representation of the Energy Transmission Loop to incorporate its functionality in the digital domain.

The Energy Transmission Loop is a central theoretical model that I refer to throughout this dissertation. It was while I was examining the live music experience within digital domains in Chapter Four that I noticed the potential of the Energy Transmission Loop as a theoretical model. The COVID-19 pandemic forced me to explore the digital domain with the same intention I devote to in-person live music experiences. Such exploration has challenged and widened my comprehension of the concept of liveness. As I experienced music performances through digital devices, I thought about the characteristics that made some people describe them

as live and whether I had noted those same characteristics during the in-person performances I experienced in my research. It was through this process that I discerned the significance of the interactions that take place in a live music performance. In the following sections of this introduction, I describe my methods, sources of data, and research approach that informed my process in examining the Energy Transmission Loop as a central theoretical model.

Ethnomusicological Approach

On its website, the Society for Ethnomusicology (SEM) defines ethnomusicology as "the study of music in its social and cultural contexts" (SEM 2022). SEM calls ethnomusicologists to explain why music is important to culture and to counter ethnocentrism with relativism, averting research bias as all music is worth studying. Additionally, SEM recommends for ethnomusicologists to avoid invidious comparisons with Western music styles and to carefully craft those comparisons if necessary.

As an ethnomusicologist, I apply this relativistic approach to the study of the environments where music is transmitted and experienced. All venues or spaces—physical and virtual—deserve attention as it is in these spaces where the human interaction prompted by music occurs, where music becomes social. In my research, the physical musical spaces are Jackson Hall and the Vanderhoef Studio Theater which are inside the Mondavi Center. While the main driving force behind the construction of this venue was to have an acoustically suitable space for the performance of Western classical music,[5] the range of music and artistic styles that come through the Mondavi Center, specifically Jackson Hall, is extremely wide. There are possibilities to adjust the acoustics, but the "one size fits all" musical space presents challenges

[5] D. Kern Holoman, interview with the author, February 23, 2017.

for both artists and audiences of the many music styles that use such a space. Some of these challenges are elucidated in the examples I present, especially in Chapter Three when I examine the influence of the physical musical space on the live music performance. Then, in Chapter Four, my attention turns to the virtual musical space. The opportunities to engage with music in either a physical or virtual space are too varied and copious to cover in one dissertation. The observations in this dissertation are unique to the performances from which they are drawn, and I have analyzed each performance mostly as an individual event. However, the observations and analyses I present may serve as a reference and inspiration to others to be more attentive to their own live music experience.

Music as Social Practice

In his book, *How Musical is Man?* John Blacking defined music "as humanly organized sound" (1973, 10). Understanding the social and cultural contexts in which humans create music is the basis of an ethnomusicological practice. In my research, I focus on the experience of making and listening to music with others within specific physical and virtual platforms. I analyze the experiential aspects of music and the social interactions and connections that arise from such experiences. Ethnomusicologist Martin Stokes argues, "music 'is' what any social group considers it to be" (1994, 5). It is humans who ultimately determine and define what is known in English as music.

According to economist Jacques Attali, music is a representation of social cohesion. In his book, *Noise: The Political Economy of Music,* Attali ([1977] 1985) theorizes about society and its future through music. He states that "All music, any organization of sounds is then a tool for the creation or consolidation of a community, of a totality" (Ibid., 6). Music is a form of

cultural expression capable of affirming and challenging the listener's identity. When experienced live, music is a community building activity because participants tend to feel connected to those around them. One way to think about these connections is through the work of ethnomusicologist Kay Kaufman Shelemay. Reevaluating the concept of community, Shelemay calls for a revised approach on the use of this word. She bases her argument on the idea that "Rethinking the notion of community opens opportunities first and foremost to explore musical transmission and performance not just as expressions or symbols of a given social grouping, but as an integral part of processes that can at different moments help generate, shape, and sustain new collectivities" (2011, 349). It is with this revised view of the concept of community that I entered the Mondavi Center and positioned myself as a participant among the various individuals and communities that come to experience music there.

Shelemay proposes the concept of *musical community* which she defines as "…a social entity, an outcome of a combination of social and musical processes, rendering those who participate in making or listening to music aware of a connection among themselves" (Ibid., 365). Based on this definition, she created an analytical model to study the various communities that can be formed through music. She divides these musical communities into three permeable and overlapping groups that develop through three potential processes, namely "descent," "dissent," and "affinity." As implied by the name, communities that are formed under the process of *descent* are united by common backgrounds. Shelemay concluded that it is possible to have distinct background sources creating different types of descent communities. An example of this community would be the people who attend a music event because it relates to their ancestry or because they share religious beliefs. For these communities, music is vital in the perpetuation of their collective identities (Ibid., 367-370).

Dissent communities usually develop out of the desire to resist pre-existing beliefs. In this case, music serves as a unifying force that speaks in support of their cause and assists in the recruitment of followers (Ibid., 370). These audiences witness a music event as a form of demonstrating solidarity with their cause. However, Shelemay clarifies that "One does not need revolutions or refugees to give rise to such outcomes" (Ibid., 372). She states that "Dissent communities are almost always at least partial offspring of the forces they challenge," which explains the connection between dissent and descent communities.

Through the process of *affinity*, collectivities spontaneously engage and identify with the music event. The driving force behind the predilection varies; while for some, attending a concert is all about the music, for others it is more a means to socialize. In addition, the communities formed through the process of affinity may also be influenced through the process of descent or dissent. Regardless, as Shelemay explains, "Whatever the basis of the attraction, an affinity community assumes its shape based in the first instance on individual volition, in contrast to motivations deriving from ascribed or inherited factors (descent) or driven by specific ideological commitments or connections (dissent)" (Ibid., 374).

My examination of the live interaction between artists and their audience is founded on the premise that music is a social practice. In my research, I explore the means by which the connections between artists and audience and among members of the audience are initiated and sustained. For my analysis, I rely on my multisensorial participation, written feedback patrons submitted to the Mondavi Center, and comments musicians and members of the audience shared with me in interviews during my fieldwork. Although I did not formally distinguish them during my fieldwork, it was clear that all three kinds of Shelemay's musical communities come together at the Mondavi Center. Shelemay's theoretical model corroborates the idea that music can

connect those who are experiencing it. However, in order to apply this model, those involved in the experience would have to participate in a different research approach from the one I took. Nonetheless, my awareness of such communities has helped me elucidate the potential significance of the artist-audience relationship that develops within a music experience at the Mondavi Center.

Ethnography as a Research Practice

In *Anthropology as Cultural Critique*, Marcus and Fisher (1986) provide a historical overview of ethnography as a research method in anthropology. During the twentieth century, ethnographic writing went from a functionalistic perspective that described a culture from a distance to become a personal window for the reader into the life of individuals in their cultural environment as interpreted by the ethnographer. One of the most significant turning points in the history of ethnography occurred in 1922 when Bronislaw Malinowski published *Argonauts of the Western Pacific,* an account of his extended stay in New Guinea. Since Malinowski's publication, ethnography as a method has evolved along with anthropology and they have become intimately associated. However, social anthropologists such as Tim Ingold have highlighted that these terms are autonomous and have striven to uncouple them going so far as to state that "anthropology is *not* ethnography" (Ingold 2011, 243).

Ingold published "Anthropology is not Ethnography" as the epilogue of his book, *Being Alive* (2011). In this essay, he examines the relationship between ethnography and anthropology demonstrating that they have distinct goals, that they are practices in their own right, and that ultimately, they should be freed from each other. Ingold defines anthropology as "…a practice of observation grounded in participatory dialogue" (Ibid., 241), and ethnography as "…a practice of

verbal description" (Ibid., 242). By identifying ethnography as a practice, Ingold is attempting to dismantle the common representation of ethnography as a method. Ingold reinforces his argument by stating that "anthropology is an inquiry into the conditions and possibilities of human life in the world; it is not — as so many scholars in fields of literary criticism would have it — the study of how to write ethnography, or of the reflexive problematics of the shift from observation to description" (Ibid.). This is a distinction that applies to ethnomusicology as well since ethnographic writing is one of the defining characteristics of ethnomusicological research.

In my work, ethnography is a research practice that requires spending substantial time with the subject being studied. Using Clifford Geertz' words, ethnography is "deep hanging out" (1998). This dissertation is a written account of my deep hanging out at the Mondavi Center. Conducting interviews and writing observations were two techniques that served as sources of data for my ethnographic research. In addition, the use of participant-observation as method while conducting ethnographic research enabled me to reach a deeper immersion since my perspective changed from merely observing to taking an active participatory role. Spending time with my interlocutors enabled my participation and very often the co-creation of the Energy Transmission Loop.

Among recent variations in ethnographic practice, some of the most prominent changes have to do with the place in which ethnography is conducted. Advances in media communication during the twenty-first century have redefined the concept of the field. The ideas of where a "field" can be found and how fieldwork can be performed have been expanded beyond the physical realm; some ethnographers have conducted their fieldwork via the internet or "in" the internet. For ethnomusicologists Tim Cooley, Katherine Meizel, and Nasir Syed, virtual fieldwork "employs technologically communicated realities in the gathering of information for

ethnographic research" (2008, 91). They use the term "virtuality" to encompass "the technological mediation of human interaction" which includes telephone conversations, internet-based interactions (i.e., email, blogs, chat rooms, social media), films and television programs, and audio recordings among others (Ibid., 90).

Regardless of its location, documenting experiences from the field is part of the ethnographic research practice. Fieldwork has been a key signifier of ethnomusicology because it is a conduit for interaction with humans. Ethnomusicologist Timothy Rice describes the musical fieldwork experience stating that "During this fieldwork ethnomusicologists typically live in a community; participate in and observe and record musical events; interview musicians, their patrons, and audiences; and learn to sing, play, and dance" (2014, 27). Rice's description matches closely my fieldwork experience. While I did not learn to sing, play, and/or dance during my fieldwork, I did sing and dance along with the audience in some of the performances. Ethnographic work in ethnomusicology is heavily dependent on human interaction. As people find new ways and mediums to connect with other people, the ethnographer must remain abreast of the technological advances that enable those connections. Gone are the days where the field was associated with remote or "exotic" locations; the field is everywhere, including the classroom, the local performing arts center, and virtually in digital communication devices.

In this project, "the field" was in both the physical and virtual realms. The Mondavi Center was the physical, central gathering location and it expands into the campus of the University of California, Davis, the greater Davis area, and the surrounding region including Woodland, Dixon, Winters, and Sacramento. The COVID-19 pandemic closed my physical field, but technological developments facilitated my sudden and complete transition into the virtual realm. Zoom (video conference platform), YouTube (video-sharing and social media platform),

Roblox (online game platform), and the applications offered through the Oculus Quest 2 (virtual reality headset) made up the virtual field where I expanded my inquiry once the pandemic started. Virtual fieldwork was an asset for participating in and analyzing music performances and reaching out to interlocutors who were not physically accessible to me.

Whether the ethnomusicologist is on a remote island or at home, information gathering is at the forefront of the fieldwork research. However, most of the ethnographies written by ethnomusicologists have dealt with specific music styles and their cultures, within a nation and/or transnation. Additionally, ethnomusicologists have also ventured into researching matters related to music and not just about a specific music style. Topics such as audience participation, sound studies, and musical institutions, have made their way into the ethnomusicological repertoire as portrayed in the work of Turino 2008, Daughtry 2015, Feld 1984, Lee 2011, and Nettl 1995, among others. I contribute to this research by presenting the information I gathered from the interactions between musicians and their audiences during the performances of a variety of music styles and "cultures." In this section I describe the methods, the sites, and the research participants that shaped this research project.

Participant Observation and Sensory Participation

As its name implies, there are two main actions in the research method of participant observation. I began my fieldwork participating as a member of the audience and observing those around me while we all watched and listened to the performances. However, as my fieldwork progressed, I realized that my participation went beyond observing and listening to the performances. I became aware of what I was perceiving through my other senses, for example, the scents I recognized when entering or walking around inside the Mondavi Center, and the

different feel of the seats in Jackson Hall and the Vanderhoef Studio Theater. This was a serendipitous realization that led me to carefully read through my interview notes. While I was experiencing this multisensory awareness, I noticed that my interlocutors provided me with information that focused on their sight and hearing, disregarding the other senses. As I note in Chapter One, only a few members of the audience referenced the sense of smell and taste in their feedback reports they filled out for the Mondavi Center.

The involvement of all the senses in the participant observation method is what anthropologist Sarah Pink calls "sensory participation" or "multisensory participation." Pink explains that "Sensory participation is in some ways akin to auto-ethnography, a method that allows ethnographers to use their own experiences as a route through which to produce academic knowledge" (2015, 97). Once I became aware of the interconnectivity of my senses, my participant observation leaned toward a sensory participation. Unfortunately, the abrupt ending of my fieldwork research in the Mondavi Center due to the COVID-19 pandemic limited my opportunities to integrate questions in my interviews that may have brought interlocutors' awareness of all the senses into the conversations.

Attention to the sensorial experience brings forth a new dimension, one that reveals even stronger connections between the body and the environment. David Howes explains that in anthropology, the sensory study "builds on but also departs from the corporeal turn by substituting the notion of the 'sentient body' for that of the 'mindful' one; that is, instead of stressing the unity of body and mind, sensory ethnography adopts a more relational, less holistic perspective on 'the body' and its various modes of being in the world" (2006, 122). An ethnography based on the participation of the senses focuses on the meanings and uses of the senses in relation to and as understood within a specific cultural context. Understanding the

senses allows us to dive deeper into the construction and perpetuation of culture as it is through the senses that cultural knowledge is processed, enacted, and transmitted. In general, the senses are the mediators between the mind and body as well as the self and its surroundings (Ibid.).

My participation as an audience member in the Mondavi Center during my fieldwork was systematic and analytical. During every performance, I paid close attention to audience behaviors and took detailed notes about my observations and sensorial experiences. This was a foreign behavior for me because I have been trained to listen and focus my attention on the performance and not on those around me. For my location in the hall, my only request was to be seated toward the back of the audience chamber. The Mondavi Center's lead ticket agent at the time, Rajiv Laffey, arranged all my tickets, honoring my request. The location of my seat equipped me with a great view to examine the behavior of a good portion of the audience as well as of the musicians on stage.

Reflexive Ethnography

Another turning point in the history of ethnography developed toward the end of the twentieth century when the "crisis of representation" was brought forth by the challenge of the authorial voice. Additionally, the argument around the lack of balance between the subjective and the objective when representing and interpreting the ethnographic experience, induced changes in the fieldwork paradigms, the descriptions of socio-cultural realities, and the writing style that portrays those descriptions. This crisis created space for ethnographers to recognize in their writing that their observations are often complex and ambiguous representations of the social world of which they choose to be participants. Therefore, a reflexive ethnography centers the experiences and perspectives of the ethnographer as a research participant.

Regardless of the methods being used, conducting fieldwork is a personal experience. In their book, *Autoethnography,* Adams, Holman, and Ellis describe autoethnography as "featuring the *perspective of the self* in context and culture, exploring *experience* as a means of insight about social life, and recognizing and embracing the risks of presenting *vulnerable selves* in research" (2015, 103). Throughout the dissertation I include autoethnographical information to articulate nuances and provide insights about the live music experience that none of the other interlocutors offered, such as those perceived through the olfactory sense in Chapter One. In this case, by sharing my reflections, I intend to help readers become more aware of their own when attending a performance. In Chapter Four, I rely on autoethnography to describe the experience of being in a music concert within a virtual reality space. Under the circumstances created by the COVID-19 pandemic and the inherent nature of the virtual reality headset, autoethnography was the appropriate method to research and write about such an experience.

It was also through self-reflection that I refined my research topic. Having worked in the music recording industry as a music editor and assistant producer for over ten years, I bring an understanding of the intricacies of the music recording process such as relevance of acoustics, microphone placement, and equipment selection. This insight fueled my appreciation and recognition for recorded music that kept me grounded when writing about the live music experience. Yet I have always felt transformed during and after experiencing live music, as if the experience resets my outlook on life, even if momentarily. I felt the need to explore the how, why, and what made this experience special and if others felt similarly. The books and articles about the live music experience listed in the bibliography fueled my desire to join the conversation.

During my fieldwork, every visit to the Mondavi Center involved reflexivity and emotional control. On my way to the first performances, I remember wondering whether I was going to manage attending so many performances while juggling many other commitments. Conducting fieldwork in the community where I live wove very tightly my personal life with my life as a researcher. The amount of time I was going to spend in the Mondavi Center for the rest of the academic year propelled several adjustments to my family's lifestyle, such as not eating dinners together regularly and altering weekend activities. I traveled to the performances by bike, mostly in the late afternoon after a long day on campus. Tired and sometimes hungry, I questioned my positioning as a researcher, my choice of topic, and the value of my research. However, the moment I parked my bike and walked into the Center, my attitude would change, and I was eager to engage in conversations and hear stories from new interlocutors. After every performance, I continued to be amazed by how invigorated I felt, so much so that I would arrive at home, sometimes around 11pm, ready to go over my notes and write about that night's experience. By the second month of research, being in the Mondavi Center was part of my weekly routine.

Having spent so much time in the Mondavi Center, I developed an attachment to the space and the experience of sharing it with others during a music event. The unexpected closure of the Center due to the COVID-19 pandemic highlighted this realization. In turn, it was this realization that made me consider the significance of my own experience and inspired me to provide an account of my multisensory participation. Due to the limitations imposed by the COVID-19 pandemic, I practiced translating and adapting my ethnographic research practice to the virtual space. No longer did I have the opportunity to speak with members of an audience in person; instead, I had to communicate by reading and typing comments in a chat, expressing my

emotions with pictorial icons, or impersonating myself through an avatar. Furthermore, my interviews with musicians and staff were conducted via Zoom—a communication platform that became widely used for business and by family and friends to stay connected during the pandemic.[6]

Field Site(s) and Case Studies

A Performing Arts Center (PAC) is a presenting organization[7] that provides space(s) for artists to perform in front of an audience (Hager and Pollack 2002; Wolff 2017). Whether in the center of a city, in a suburban neighborhood, or as part of a university campus, these organizations aim to improve the cultural and social well-being of their communities (Lambert and Williams 2017, 1). Previous scholarly works on PACs have employed quantitative methods to assess PACs' connections with their audiences. However, these measurements are often focused on consumer behavior and economic gains, with the narrow goal of increasing community patronage as measured by ticket sales (McCarthy and Jinnett 2001; Andreasen and Belk 1980). In my research, I rely mostly on qualitative data collected through interviews, written feedback from patrons, and participant observation. This qualitative data provided insights about the meaning and value people assign to experiencing music live. While artists can perform for an audience just about anywhere, in my research I examine the influence that the spaces in a PAC such as the Mondavi Center have on the live music experience for both the audience and the performer.

[6] Zoom is a communication platform that provides video conference service to its users (See https://zoom.us for more information).

[7] An organization is "a relatively enduring group of people with some degree of coordination around a common principle or objective that has a more or less identifiable boundary" (Jones 2014, 1).

Located on the campus of the University of California, Davis, the Mondavi Center opened its doors on October 3, 2002. It offers a programming season that runs every year from August 1 to July 31. Since its opening, the Mondavi Center has presented a wide variety of artists, from world-famous to local. Symphony orchestras, jazz bands, Mexican mariachis, Balinese gamelan, dance troupes, solo artists, speakers, and stand-up comedians, as well as an assortment of whimsical and circus-like productions have all been part of the programming line-up selected by the organization to perform in the Mondavi Center. As a result, the audiences consist of individuals who are diverse in terms of age, ethnic background, and thanks to subsidized programs, economic status.

My interest in the Mondavi Center began when I moved to Davis in October 2011. Since then, I have attended many performances, become a subscriber, and volunteered for the organization. During my visits to the Mondavi Center, I have observed people in the audience sit quietly, laugh out loud, shed tears, play with giant balloons, get showered with confetti, and on several occasions, dance. These diverse experiences have motivated me to understand better the Mondavi Center's unique characteristics, its audiences and their reactions, the careful design of the concert hall's acoustics, the Center's particular location, and even the materials used in its construction.

As part of my ethnographic research, my goal was to spend as much time as possible in "the field." My desire was to gather as much knowledge and understanding as possible about the site where I was conducting my research as well as to experience a variety of music performances. Before starting my fieldwork, I met several times with the Mondavi Center's executive director, Don Roth, and associate executive director, Jeremy Ganter, to talk to them about my research plan and obtain their consent. They approved my request, and the Mondavi

Center provided me with the tickets to attend all the live music performances, approximately 100, scheduled for the 2019-2020 programming season. However, my fieldwork was abruptly cut short after the World Health Organization declared the infectious virus COVID-19 a pandemic on March 11, 2020.[8] On that day, the Mondavi Center closed its doors and soon cancelled the rest of the 2019-2020 season. In California, as in the rest of the world, people gatherings were discouraged and, in some places, banned by the government.[9]

Still, during the time I conducted my fieldwork, I attended 50 performances at the Mondavi Center. Each of these performances was unique and most offered distinct insights into aspects of the live music experience that have contributed to my research. However, in my writing, I do not mention all of them. As I reviewed my notes and analyzed all other sources of data, I noticed shared traits among performances. I also realized that some performances exhibited characteristics that were intriguing; they stood out for reasons that will become evident as I describe them within specific contexts. While the performances I have included as "case studies" possess special characteristics, they may serve as representatives of other performances. They are also performances for which I had the amount and type of data necessary to build and support my argument. One special case involves the concerts of artists who offered a performance four nights in a row; I have included observations about all of them because they provided the opportunity to examine artists' behavior in front of four different audiences within the same space.

[8] https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020 (Accessed March 5, 2022).
[9] https://www.gov.ca.gov/2020/03/12/governor-newsom-issues-new-executive-order-further-enhancing-state-and-local-governments-ability-to-respond-to-covid-19-pandemic/ (Accessed March 5, 2022).

Caused by the pandemic, the sudden closure of physical music venues and the uncertainty about their reopening led artists to seek and increase their dependence on digital and virtual platforms to present their music and to reach and connect with their audience. Noticing the variety and creativity of the virtual platforms, I decided to explore three of them as part of my fieldwork, namely a website, a computer game, and two concert venues accessed through a virtual reality headset. The reasons behind my selection of these virtual spaces are personal. About a month or two after its live performances stopped due to the COVID-19 pandemic, the Mondavi Center began presenting performances online. I wanted to watch an artist whom I had experienced in person at the Mondavi Center such as the Alexander String Quartet (ASQ), which had performed every year at this venue since its first season 2002-2003. The ASQ virtual performance is the only one of the virtual concerts I experienced in which the artist had a connection with the Mondavi Center. Regardless of the location, physical or virtual, I applied the same methods and approached my examination and analysis of each event with the same rigor.

Unable to socialize in person during the pandemic, my then ten-year-old son connected with his friends through a video gaming platform named Roblox. Aware of my interest in music and research topic, he introduced me to Roblox and the world of music performances in video games. The first concert my son experienced in Roblox was Lil Nas X (LNX) which took place on November 14 and 15, 2020. My analysis of LNX's Roblox Concert Event is based on the recording Roblox shared on YouTube on December 1, 2020, the comments people posted on YouTube about the concert, and my son's experience in the actual Roblox event. Fortunately, in September 2021, Roblox hosted another concert event, and my son invited me on time for the two of us to experience together Twenty Øne Piløts in Roblox.

Finally, the Oculus Quest 2 virtual reality headset was a present my son received from his grandfather. It was my son who taught me how to use it and showed me how to navigate that virtual space in my search for music performances. Venues (Beta Early Access)[10] and MelodyVR are the two applications I used, and I chose them for very specific reasons. The functionality of the Venues app design reminded me of my experiences at the Mondavi Center. When users access the Venues app, they are in a virtual space that looks like a movie theater with a lobby that serves as the central hub from which a user navigates and enters the room that is showing the performance the user wants to experience. On the other hand, the MelodyVR app places the user on stage with the artists while they are performing. For a member of the audience, this stage perspective is a rare option during an in-person concert, especially at venues such as the Mondavi Center.

Research Participants

For my research, I gathered the information provided by the people who participated in each event by taking notes during our conversations or by collecting and reading testimonies they wrote about their experience. For the performances at the Mondavi Center, these written accounts came from two sources, namely the Mondavi Center Administrative Advisory Committee (MCAAC) and the Constituent Feedback Reports. I quote the comments written about virtual concerts from chats or websites. In my writing, I only mention the names of the participants from whom I obtained consent to refer to them by their name. In the responses, I quote from either the Constituent Feedback Report or the MCAAC, and I preserve the anonymity of the patron by referring to the source only. For the comments I extracted from public chats or

[10] According to the Oculus website, the Venues app was retired from the platform on January 31, 2021. See https://www.oculus.com/experiences/go/1555304044520126/ (Accessed December 1, 2022).

websites, I keep the username the person used to publish their comment. What follows is a general description of my interactions with research participants and the role they played in my analysis.

Interviews and Conversations

After receiving the approval from UC Davis's Institutional Review Board (IRB) in the summer of 2019 to interview people over the age of 18, I conducted interviews with three groups of people, namely the Mondavi Center's staff at the time of my research, visiting performers and their support personnel, and members of the audience. At the beginning of each interview, I informed interviewees that their participation was voluntary and that I would like to take notes. In some cases, I asked for permission to audio record our conversations and assured interviewees that the recording would be confidential, non-commercial, and stored in a secured password-protected external hard drive only accessed by me.

Although I prepared and was always fully aware that I was conducting research, I aimed to have a friendly and relaxed approach. I walked a fine line between interviewing and engaging in conversation with each person. The conversations with individuals from each of the three groups differed not only in the questions I asked but also in my approach. Some felt more formal than others and I refer to them as either an interview or a conversation based on the level of formality. For interviewing the Mondavi Center's staff, I scheduled a set time, usually 30 minutes, to speak with the individual. Most of these interviews happened during the summer of 2020 over Zoom, which allowed me to record them. Other very informative conversations occurred informally during my fieldwork; the more time I spent at the Mondavi Center, the more the staff recognized me and began feeling more comfortable speaking with me about their

approach to working with music and musicians. These informal conversations were not recorded, but I would write notes about them afterwards. When relevant, I call upon this information having previously obtained permission to share it.

Most of the interviews with musicians were arranged for me by Laurie Espinoza, the artist service manager at the Mondavi Center. These were 10- to 15-minute-long recorded interviews conducted inside the Center, usually after a performance. My interview with Melissa Aldana was facilitated by Ana María Aresti, one of the visual artists working with Aldana, whom I met and interviewed before one of the concerts. I also directly emailed the members of the Alexander String Quartet and scheduled Zoom interviews with two of them for June 2020. Aware that some musicians visit the lobby after their performance, I sought those opportunities and spoke briefly and informally with musicians such as Petra Magoni and Ferruccio Spinetti from Musica Nuda.

Speaking with members of the audience was always intimidating at first, but they quickly turned into enriching and enjoyable conversations. I consistently arrived at the Mondavi Center 30-45 minutes before a performance in order to approach people and not rush a conversation. Conversations lasted between two and fifteen minutes depending on the individual and their company. Sometimes, I would leave the lobby and locate my seat and if the seats around it were occupied, then I would sit down and initiate a conversation with my neighbors. Performances that had an intermission granted me an extra opportunity to interact with fellow audience members. On all occasions, I was mindful of each situation, and avoided interrupting personal conversations or becoming an annoyance. I took copious handwritten notes during these conversations since none of them were recorded. Not having the distraction of recording

equipment helped me capitalize on the time and maintain the focus of the conversation on the live music experience.

There are different reasons why audience members attend a performance at the Mondavi Center, and based on my interviews, I identified three broad categories. Some people came to a performance because they are "Series Subscribers" which means that they obtained their tickets based on their selection from the Center's series subscription program. Others purchased tickets for the performance(s) that interested them based on their own knowledge of the artist or music. A third group was there under "binding" conditions such as someone gave them a ticket and/or asked them to accompany them, or they were required by a class to attend the performance. The Mondavi Center programed ten series in the 2019-2020 listing, namely Orchestra, Concert, Dance, Jackson Hall Jazz, Studio Jazz, American Heritage, With A Twist, Speakers, World Stage, and Alexander String Quartet. Each series contained preselected performances grouped by theme and sold as a package. Not every "Series Subscriber" was familiar with all the artists, but they trusted the selection of the Mondavi Center's programming staff and bought tickets in a package of preselected performances. Although these subscribers received a 20% discount on ticket prices, saving money was just a perk; these were patrons interested in the entertainment and/or social contact that events at the Mondavi Center provide while supporting the Center and the arts.

Through my conversations, I began to recognize these aforementioned groups by paying attention to their level of interest and enthusiasm when speaking about the live music experience and what it means to them. Mondavi Center Series Subscribers tended to be more open and willing to share their thoughts about live music, especially within the context of the Mondavi Center. Their sense of connection with the Center was palpable in the selection of examples

about their experience, and the phrase "I've been coming to the Mondavi Center since it opened!" was common and a key signifier of this group. Those who purchased tickets for specific performances spoke more about the artist(s) and made general comments about the Mondavi Center. For example, one patron at the John Prine (1946-2020) concert told me how many times he has seen the artist live and how he thought it was a "bonus" to see him in "such a wonderful venue . . . it [artist and venue] makes for a great combination!" This patron told me that he had been to the Mondavi Center only once before this concert. Those under "binding" conditions would often disclose early in the conversation the reasons for being there. Nonetheless, after disclosing why they were there, they were willing to share information about their experience.

Mondavi Center Administrative Advisory Committee

At least one committee member of the Mondavi Center Administrative Advisory Committee (MCAAC) attended each performance offered at the Mondavi Center during the 2019-2020 season. After a performance, every MCAAC member who was present filled out an electronic evaluation of the performance. In the evaluation, the MCAAC members reviewed and assessed different aspects of their experience such as overall quality of the event, the venue, and the customer service offered. In addition to submitting these evaluations, the members of the MCAAC meet once per quarter to share their perceptions and opinions about the performances that they attended. In these meetings, the MCAAC also hear from members of the Mondavi Center staff who share insights about their work and sneak peeks of upcoming programming. Two meetings were held during the 2019-2020 season (10/7/2019, 2/10/2020).

Aware of the MCAAC work, I requested permission to attend their meetings and gained access to their event evaluation forms during the 2019-2020 season. In addition to communicating my intentions to the MCAAC members in person and via email, I formalized my request by filing it with the IRB. Several times throughout the dissertation I reference the information submitted by the MCAAC members. I have maintained the anonymity of the reviewer by only acknowledging their connection to the MCAAC.

Formerly known as the Arts and Lectures Administrative Advisory Committee, the MCAAC is part of the Administrative Advisory Committees of the University of California, Davis. In general, faculty, staff, and students apply to be part of a committee because they want to be supportive and deeper involved in the governance of the university. In the case of the MCAAC, according to the 2019-2020 MCAAC annual report, the support that the MCAAC provided to the Mondavi Center and its staff during that season had three main objectives: "evaluation of the total Mondavi Center experience; identifying emerging customer service issues; and fostering deeper relationships with faculty, staff and students."[11]

For the 2019-2020 Mondavi Center season, the MCAAC consisted of 18 members and one ex-officio member. The members of the MCAAC represent a variety of personal and career backgrounds as well as associations with the university. Three people from the committee held specific roles: one person as Chair and two who form a "Ticket Allocation Subcommittee." The Chair acts as a liaison between the Mondavi Center and the MCAAC assisting with communication and writing meeting agendas and minutes. A limited number of tickets for every performance at the Mondavi Center is reserved for members of the MCAAC. The members fill

[11] https://ocpweb.ucdavis.edu/aac/public/view-file.cfm?ev=41537F9E69A87B1C36EF6C4A88B5F7A9CD874F04D847845F9DA5A0184F06E28E361CCEB9A953C9D413FF4DCF4EF79F21BED7B959B71761295B7093B36F08994EBD03B7DEF447F7DFD2C34884ED7171E8E1263AEC6A52E44EAAB0B525F7E4E539 (Accessed February 18, 2022).

out a request form indicating the performances they are interested in attending. The Ticket Allocation Subcommittee oversees the ticket requests form and communicates with the Mondavi Center ticket office to distribute the tickets to the other MCAAC members. In a way, the MCAAC functions as a focus group for the Mondavi Center and their feedback proved valuable to my research.

Survey and Constituent Feedback Reports

Acknowledging the complexities of studying audiences in the performing arts, audience research scholar Katya Johanson remarks that the audience experience "includes both cognitive and affective responses, varies through the course of a performance as well as from one audience member to the next, and begins before they enter the theatre and continues long after they leave" (2013, 170). Keeping the veracity of Johanson's statement in mind, and aware that studying the audience experience is different from a study of audience demographics, I intended to rely on a combination of research methods to collect a variety of data for a thorough analysis. For this purpose, I designed and was approved by the IRB to conduct a survey of each event's audience.

The survey was web-based, meaning that individuals were contacted by email and asked to participate, and they completed and submitted the survey through the internet. The survey had a total of 11 multiple-choice questions and three short-answer questions. Out of the 14 questions, four collected demographic information. The survey was voluntary and did not record any information that directly or indirectly identified the participant. Although I designed the survey, Rob Tocalino, the director of marketing at the Mondavi Center, worked with me in deciding when would be the best time and approach to distribute it. We decided that the survey should reach the audience at the end of each academic quarter, namely mid-December 2019, mid-March

2020, and mid-June 2020. Tocalino offered to email the survey to those who had attended performances throughout each quarter. Six hundred and twenty-four people filled out and submitted the survey sent in December 2019. This number of responses represents ten percent of the people who attended performances at the Mondavi Center for that quarter (September through December).

I intended to analyze the survey responses from each quarter with a software known as *R,* which is used beyond academic research worldwide, especially in statistics and data science. Unfortunately, I did not conduct this analysis due to the lack of sufficient data (since the COVID-19 pandemic did not allow me to circulate the other two surveys). However, Rob Tocalino shared with me the Constituent Feedback Reports that the Center collected from the first in-person performance of the season in September 2019 to the last one in March 2020, as well as the one for the "Callas in Concert" from September 2018 which I reference in Chapter Four.

The Constituent Feedback Report is generated from a post-show survey that the Mondavi Center sends via email the day after a performance to those who purchased tickets to it. The short survey asked the customer to do two things: rate their experience on a scale of one to five through a single pulldown field and provide any additional comments on their experience in an open response field. The responses provided in the open field proved to be invaluable to my research as many patrons wrote extensively and eloquently about their experience in the Mondavi Center.

Virtual Participants

For the virtual performances I analyzed in Chapter Four, I extracted the testimonies I quote from YouTube. In addition to uploading, storing, and serving video content, YouTube users are allowed and encouraged to post comments about every video. Therefore, once a recording of the virtual performance I analyzed was uploaded, I could read the reactions and comments that fans as well as musicians posted about it. The language—mostly slang—and mode of expression—through emojis and emoticons—used in these comments were very different from the written and formal testimonies provided by the Mondavi Center patrons. During the concerts on Roblox, users could only express their emotions via emojis. However, once the concerts were posted on YouTube, people had the ability to write messages—most often characterized by abbreviated language and slang, sometimes written in all caps, and commonly enhanced with emojis that depicted an emotion. Reading through the messages posted on YouTube became a valuable reference that revealed the need for and significance of the interactions among the participants in a music experience even within a virtual setting.

The Chapters

The material in this dissertation is divided into four main themes in reference to the live music experience and their significance in the formation and sustainability of the Energy Transmission Loop. The themes are: the role and significance of the senses, the process of musical immersion, the relationship between intimacy and musical space, and the concept of liveness in the digital domain. Even though there is overlap among these themes, my organization aims to highlight key characteristics of each that should facilitate their understanding and elucidate how they are related.

In Chapter One, I deconstruct the audience-performer dichotomy that often conceives them as independent from each other by focusing on our five basic human senses as the main conduits for the transmission of energy, part of the Energy Transmission Loop, in a live music performance. As social beings, musicians and members of the audience perceive and form emotional associations with experiences through the senses. I maintain that the live music experience engages all the senses, and I explore some of the sensory impressions elicited during live music performances at the Mondavi Center that took place during my fieldwork. I elaborate the role of each sense through case studies that I draw from specific concerts. Although I analyze each sense separately, I begin with the understanding that the senses do not work independently of each other but in an interrelated manner. Thus, in this chapter I argue that during the live music experience, both audience and musicians are listeners and that listening to music is an active process in which all the senses participate.

The second chapter examines the state of musical immersion through theories of time and attention and the processes of engagement and musical entrainment. The chapter begins by examining the relationship between music and time followed by an overview of the processes of attention and musical entrainment. I explore how the perception of time and the process of attention allow individuals to experience a state of musical immersion, a key factor that facilitates the flow of energy that is part of the Energy Transmission Loop. I study the connection among individuals present in a live music performance through three levels of musical immersion that originate (1) from within the individual, (2) from within a group of interacting individuals, and (3) from within two groups which I call "musical intra-immersion."

Music making and the interaction between musicians and their audience develop within a space which I refer to as the "musical space." Chapter Three examines the relationship between

sound and space, how they affect each other, how they affect the listeners, and how they affect the Energy Transmission Loop created during the live music experience. In this chapter, I explore the concept of intimacy in relation to the musical spaces found inside the Mondavi Center. Using specific music performances as examples, the chapter illustrates the transformation of a musical space into a musical place when musicians and their audience imbue such a space with significance during the live music experience.

While the first three chapters are centered around the in-person physical experience, in the last chapter, I explore how the ideas in the previous chapters translate in the digital domain. I assess streaming and virtual reality technologies as media for the music experience. More specifically, in Chapter Four, I examine possible variations and expansion of the Energy Transmission Loop into what I call an Energy Transmission Spiral based on the asynchronous interactions that emerge in different virtual settings and representations of the characters involved in the experience. I conduct my examination considering the characteristics I examined and analyzed in the first three chapters including the kinds of interaction, levels of immersion, and manifestation of intimacy that each digital setting provides.

In the Closing Remarks of this study, I revisit the material presented in the chapters through an examination of the first in-person live music performance at the Mondavi Center after the COVID-19 shutdown. I describe the measures brought about by the pandemic that affected the members of the audience and how those modifications influenced the interaction between audience and performers. The analysis and interpretation of this event highlight once again that the interactions among the individuals present in a live music performance are a key component that determine those individuals' experiences. It is through these interactions that energy is

generated aiding the formation and possible completion of the Energy Transmission Loop during the live music experience.

CHAPTER ONE: WAYS OF SENSING THE LIVE MUSIC EXPERIENCE

The five basic senses, hearing, taste, smell, sight, and touch are the channels through which humans perceive the world to form internal representations of it. Significantly, the information the senses collect is not just part of a conceptual process that aids the understanding of the surrounding world, but it also has emotional associations. A sound, a smell, a taste, a touch, a sight can individually or collectively evoke strong emotional responses that in turn become associated with an experience. However, the way humans use the senses to navigate and create meaning out of experiences is influenced by cultural and personal practices (Howes and Classen 2014, 8). As a fundamental axiom, I maintain that whether on stage or in the audience chamber, the live music experience is one that engages all the senses. While all senses are activated during the experience, the awareness of the senses' engagement is not equally distributed. Throughout this dissertation, I use the word *engagement* to describe a state of awareness in which participation is invested as a reaction to a stimulus.[12]

In this chapter, I explore some of the sensory impressions elicited by the music performances at the Mondavi Center. These impressions were elicited from my own experience and that of other audience members, as they have indicated in either interviews or written feedback. The interpretation of sensory experiences is unique to the individual; thus, these perspectives should not be considered comprehensive. My intention is to highlight the complexity of the live music experience which may be of interest to those who have never been to an in-person concert, as well as to those who regularly attend live music performances but whose familiarity with the experience may cause them to overlook some of their intricacies.

[12] See Chapter Two for more about the word *engagement*.

In his study of musical communication, musicologists Charles Seeger considers the visual, auditory, and tactile senses—for Seeger, the olfactory and gustatory senses are included within the tactile—as modes of communication (1977, 20). Seeger refers to the senses as "media" that are "interdependent" on each other (Ibid., 20-22). These interdependent relations among the senses exhibit what anthropologist David Howes describes as "intersensoriality" (Howes 2005, 9-10). In the book, *Ways of Sensing*, Howes, along with cultural historian Constance Classen, expand beyond intersensoriality, underscoring "the plurality of sensory practices in different cultures and historical periods — way*s* — and the processual nature of perception — sens*ing*" (2014, 5). These scholars commonly study the sensorium to learn about and build sensory profiles of societies in different places and during different historical periods. Similarly, I aim to examine how the senses are engaged in live music performances and to discern potential sensory profiles of audience members and performers who frequented the Mondavi Center during the 2019-2020 season. My perspective is built from my position as an ethnographer and multisensory participant in more than 50 live music performances at the Mondavi Center over the course of six months. Importantly, Howes and Classen's cultural approach to the study of "ways of sensing" avoids universalities and ethnocentric practices by acknowledging that both socio-cultural values in society as well as the personal meaning assigned by an individual influence the perception and interpretation of sensory information. This is a stance that aligns with my ethnomusicological perspective and one which recognizes the fluidity of human nature and cultures, as well as the transformations that traditions experience.

Recognizing that the interaction of the senses is dynamic, I organize the chapter into four parts. The first highlights how the olfactory and the gustatory senses are active yet repressed in

live performances at the Mondavi Center; the second examines the relationship between sight and lighting design and their influence on the auditory sense. This discussion leads into a section that considers the audience's listening as a sort of performance and their vocal expressions as representative of their auditory experience. Lastly, in the fourth section, I explore the tactile sense through embodied actions associated with live performances. Throughout, I emphasize that functioning senses are actively participating and impacted by the surroundings. Therefore, this organization of the senses does not intend to reflect a hierarchy or prioritization of them during a live music experience at the Mondavi Center.

The Olfactory and Gustatory Connection

Relationships among wine, food, and the arts, more specifically music, have been explored in opera (Polzonetti 2021), jazz (Laver 2020), and world music (Williams 2006), and other genres. Focusing on the historical period from the Renaissance to the 1950's, musicologist Pierpaolo Polzonetti discusses in his book, *Feasting and Fasting in Opera,* the presence and significance of the consumption of food and wine by characters in operas as well as by audiences (2021). Ethnomusicologist Mark Laver studies the connection between jazz and dining by examining the type of experience the music creates for diners. Laver also studies how jazz musicians such as Charles Mingus felt about performing in front of an audience distracted by food and drinks (2020). In *The Ethnomusicologists' Cookbook,* ethnomusicologist Sean Williams brings together the writings of over 30 contributors (mostly ethnomusicologists) that highlight the link between music and food by taking the reader on a culinary and musical journey around several regions of the world (2006). Each essay in Williams' cookbook includes a recipe and describes the socio-cultural environment from which the recipe originated. While offering

different approaches on the relationship between music and the consumption of food (and drinks), in these manuscripts, Polzonetti, Laver, and Williams underline the significance of the sense of taste and its interrelation with other senses. These works connect the sense of taste with the experience of music by considering the combined presence and consumption of food/drinks and music as markers of social behavior, cultural refinement, and identity.

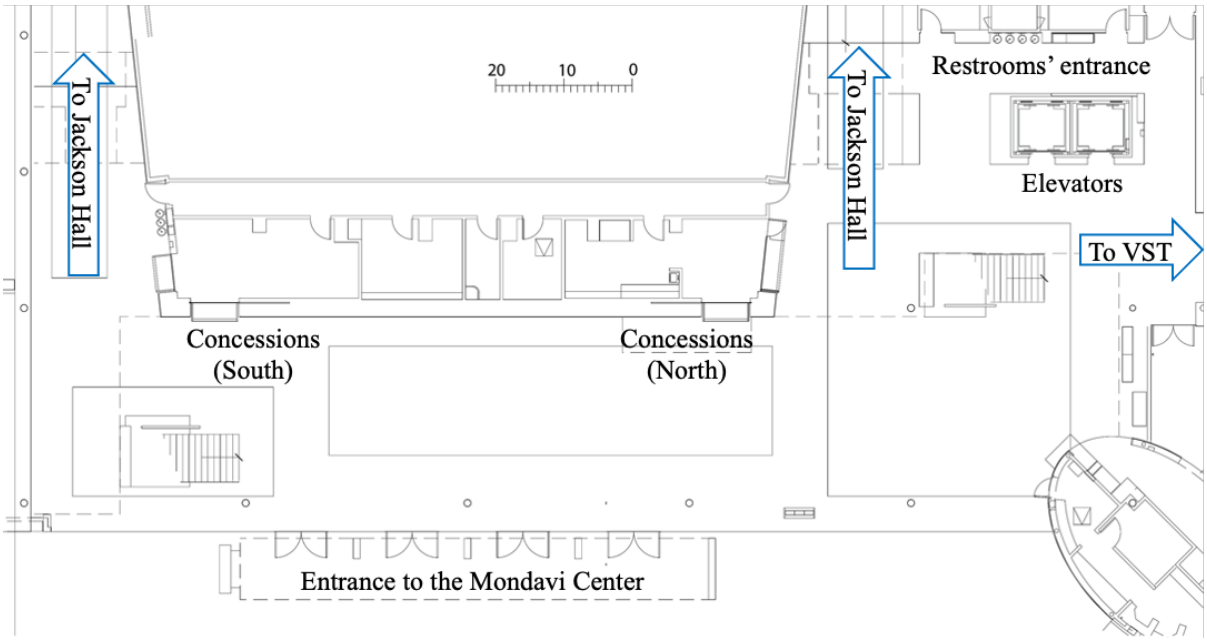
Outside the context of musicking, the connection between the senses of taste and smell has been a popular subject of study among scholars in fields such as cognitive psychology and marketing (Schifferstein and Verlegh 1996); neuroscience (Dalton et al. 2000; Small et al. 2004); and experimental psychology (Spence 2015). Through their research, these scholars describe the integration of these sensory inputs in the brain when responding to stimuli. Intuitively, this interrelationship is commonly experienced, for example, when a meal tastes different than expected because the person eating is suffering from a head cold that is congesting the nose and affecting the person's ability to smell. A recent example is the loss of the sense of smell and/or taste in some patients who have been infected with the COVID-19 virus. Unlike the senses of vision and audition, the perceptions of the olfactory sense are still impossible to capture and store. In their book, *Aroma,* sensory studies scholars Classen, Howes, and Synnott state that "In the realm of olfaction, we must make do with descriptions and recollections" (1994, 3). Smells can be troublesome to name, at least in English and Spanish. For speakers of these languages, smells are best described through the use of similes, hence phrases, "it smells like . . ."

I have come to recognize and appreciate a characteristic scent of the Mondavi Center. In fact, for me, the Yocha Dehe Grand Lobby, Jackson Hall, and the Vanderhoef Studio Theater (VST) each has its own scent. The scents are, however, subtle and I notice them only when I intentionally pay attention to my olfactory sense as I enter each space. In this section, I describe

the olfactory representations of these three spaces in the Mondavi Center. I explore the senses of smell and taste by relying mostly on self-ethnographic reflections that guided my analysis of what I perceived through my olfactory and gustatory senses while experiencing live music in the Mondavi Center. By evaluating the correlations of the olfactory and gustatory senses with music performances in a Performing Arts Center, I aim to highlight their potential impact on the Energy Transmission Loop during the live music experience.

Since the doors in the lobby are commonly propped open when entering the building for a performance, scents from the outdoors often make their way in. These scents change throughout the year as a result of the seasonal weather patterns that affect air humidity and temperatures; smoke from occasional wildfires in the region sometimes spreads over the Davis area. Due to its physical proximity to the UC Davis Arboretum, the fragrances of nature can often be perceived when entering the building. The vast space in the lobby and the air circulation, however, diffuse smells and keep them from lingering. Nonetheless, a variety of aromas can be encountered while walking inside the lobby. Sometimes a person's odor type as well as perfumes are strong enough that I (and most likely others) may smell them as well. When the concessions are open, different smells emanate from it, but they are only perceived if one is within six feet or less from the source, perhaps because the pastries and food they sell are pre-packaged; they are not baked or cooked in the Mondavi Center. The concessions also sell drinks such as sodas, beer, and wine. The area around the entrance to the bathrooms has a trace of that peculiar odor of public restrooms, a combination of cleaning supplies and odor neutralizing sprays used to mask the smells of bodily excretions. However, the odor remains around the hallway and does not reach the rest of the lobby—an advantage of the architectural design (see Figure 1.1).

Figure 1.1 Yocha Dehe Grand Lobby (Main Floor)



Source: Regents of the University of California.[13]

Heading toward Jackson Hall, especially when walking close to the sandstone walls, the hint of petrichor or "earthy" smell is to me the most distinct of the subtle fragrances inside the Center. The sandstone walls inside Jackson Hall allow for its continuity, as traces of this delicate aroma are also in the Hall, and although it dissipates as one moves away from the walls, I can sometimes still perceive it even when I am seated in the middle of the audience chamber. On the rare instances that I was among the first to enter the Hall and find my seat, I would close my eyes and allow my nose to explore—this is how I became aware of the scent of petrichor. On those occasions, I was also more sensitive to the smells around me throughout the performance; but perhaps it was a coincidence that more people used strongly scented perfumes, colognes, or lotions in those concerts.

[13] I would like to thank Phil Daley, events and publicity manager at the UC Davis Department of Music, for facilitating access to the diagrams and photographs from this source.

In the VST, smells have never caught my attention; they come across as belonging to the experience. The presence of a temporary bar in the VST during most of the performances transforms the environment. For my olfactory sense, this is a feast. The aromas of wine, beer, and other beverages permeate the room and accompany the sounds and movements associated with having a drink. There is no petrichor smell in the VST. Instead, the exposed ceiling allows the air to circulate near all the electrical wires for the lights and audio equipment and on a few occasions, I perceived a characteristic smell of such equipment which I can best described as clean, fresh, and clover-like. This smell is one that I learned to recognize throughout my audio production career. Overall, the more relaxed atmosphere of the VST facilitates the open exploration through the other senses. As I will examine in more detail in Chapter Three, there are several reasons why some patrons and artists are attached to and even prefer the VST as a musical space over Jackson Hall.

Whether Jackson Hall or the VST, these spaces are meant to give the impression that they are odor neutral, as if everyone in it is expected to only engage with audio-visual aspects of the performance. In writing about the cultural study and history of smell, Classen, Howes, and Synnott explain that during the eighteenth and nineteenth centuries scientists and philosophers led the revaluation of senses in which smell was not favored as it was associated with "madness and savagery" while sight was considered "the preeminent sense of reason and civilization" (1994, 4). In previous centuries, however, scents were widely expected and accepted as part of the experience. Experimental psychologist Charles Spence, for instance, describes how in sixteenth century theater, scents played important roles as part of the production, from masking bad odors to becoming part of the theatrical design to evoke certain sensations associated with the performance (2021b, 4-7). Nonetheless, Spence notes that such utility is linked to the theater

and not necessarily to music halls (Ibid., 2). Generally, Classen, Howes, and Synnott affirm that in the West, "Smell has been 'silenced' in modernity" (1994, 4). Thus, nowadays, the unofficial regulation of odors is expected in shared public spaces such as the Mondavi Center.

It is likely that the smells I perceived throughout my visits to the Mondavi Center may have been missed by everyone else. Not only were they very subtle, but the perception and reaction to a smell may be different from one individual to another. Furthermore, as I have previously mentioned, there is a lack of common terms for discussing olfactory experiences. It is also possible that for the Mondavi Center patrons, it is uncommon or even considered inappropriate to speak about smells. None of the people with whom I engaged in conversation mentioned anything related to the sense of smell, and out of the 1149 patrons who provided feedback online only four made comments in reference to this sense. One of the constituents expressed discontent about the bathrooms by stating that the smell was "not welcoming." Another constituent who admitted suffering from "reactive asthma" decided to leave the concert after the intermission because of the smell of perfume in their vicinity. In the feedback, the patron wrote, "It is a pity that many women and men use these toxic scents and assume their 'aura' is acceptable to others in close quarters." The other two constituents commented on the smell of alcohol, which for both detracts from the experience; as one of them wrote, "the smell of it [alcohol] makes concentrating on and luxuriating in the music difficult to do." Although a small number of comments reference the olfactory sense, they demonstrate that there are individuals with sensitivity to and tolerance of smells that are beyond the norm. Whether body odor, perfume, or alcohol, smells can be a distraction which, as I examine in Chapter Two, affects the flow of the Energy Transmission Loop during the live music experience.

In addition to the concessions and the open bar in the VST, another location from which the smell of alcohol occasionally emanates is the Bartholomew Room, a private donor lounge located on the second floor of the lobby, above the ticket office (see Figure 1.1). Although the room is part of the lobby, the experience is limited to donors who belong to the "Inner Circle."[14] For these social gatherings, a performance is paired with a winery to serve the Inner Circle donors who may have complimentary wine pours an hour prior to such a performance and during its intermission. The Mondavi Center markets these events as "Uncorked."

There is a strong connection between the Mondavi Center and wine. Robert and Margrit Mondavi, pioneers in the California wine industry, secured the name of the Center by donating $10 million for its completion. The couple also donated $25 million toward the construction of UC Davis's Robert Mondavi Institute for Wine and Food Science, located across the street from the performing arts center. Former UC Davis Chancellor Larry Vanderhoef (tenured as chancellor from 1994 to 2009) expressed that the Mondavis "believed passionately in enhancing life through wine, food and the arts" (2015, 16). Ironically, as four patrons pointed out in their written feedback, Mondavi wine is not always available for purchase at the Mondavi Center. Nonetheless, in random conversations with friends who do not reside in Davis, I have noticed that when I mention that I am conducting fieldwork research at the Mondavi Center they immediately ask what wine has to do with music. This signals the strong association of the name with the wine maker, Robert Mondavi.

While wine and other drinks are on occasion part of the live music experience in the Mondavi Center, including bringing drinks inside Jackson Hall, the consumption of food is limited to the lobby. This is not unique to the Mondavi Center. Scholars have identified that in

[14] As of the 2021-2022 season, Inner Circle donors are those who donate more than $1750 a year.

the nineteenth century food and drinks were no longer welcomed inside concert halls, in contrast to years prior—as Polzonetti remarks, in Venice during the seventeenth century, "eating at the opera was the norm rather than the exception" (2021, 51). Eating, as well as drinking, is a multisensory experience. Humans make noises when eating or drinking. Furthermore, smells from the food are dispersed, and there is the chance of debris or spills as happened in at least one of the performances during the 2019-2020 season. Based on the written feedback, such an incident made some patrons "very angry." Most of all, eating and drinking demands attention and may be distracting which could be problematic for composers such as Richard Wagner (Berger 1998; Polzonetti 2021) and Charles Mingus (Laver 2020), who believed that attention is to be fully directed toward the music. Wagner's and Mingus' sentiment is possibly shared by many performers, regardless, it is the space in which a concert is held what determines the limitations for eating and/or drinking during a performance. As reported by patrons in their written feedback, among those limitations stand: the choices of food offered— "I was disappointed that NO VEGAN or VEGETARIAN food was available. For an early 7pm performance, I arrive hungry…"; the ease in which it can be accessed— "The line[s] for snacks and drinks during intermission are long…"; and the physical conditions in which it can be consumed—there are tables in the lobby and for most performances in the VST, but none inside Jackson Hall. The seating arrangement in Jackson Hall is simply not conducive to a comfortable eating experience.

While food and drinks have never been my incentives for going to the Mondavi Center, there have been occasions on which I have enjoyed a drink at the VST during a jazz concert, but never inside Jackson Hall. I just do not associate that musical space with food or drinks. It is not necessarily the setting, but most likely the conventions that have been imposed on food and drink

consumption while experiencing live music in concert halls such as Jackson Hall. Polzonetti traces the origin of those conventions in opera houses to Richard Wagner's rituals which required the audience to fast so as to obtain unconditional attention at all times to his music while it was performed (2021, 73-75). Such conventions were part of my upbringing. When I was growing up in Venezuela the same Western standards were followed inside concert halls regardless of the music style being performed. Howes and Classen explain that these Western standards emerge from the strong association of the senses of sight and hearing with the transmission of intellectual, rational, and cultural values (2014, 1-4). They argue that this association has been enhanced by inventions such as print, photography, radio, television, and computers all of which "present sensorially-limited but culturally and psychologically powerful representations of the world" (Ibid., 3). Thus, leaving smell, touch, and taste to be considered as "lower" senses (Ibid.). Most likely, the reason why I abstain from food and/or beverages is a combination of all these factors, in addition to my strong desire to fully immerse myself in the music. Others apparently share my opinion, as a person who attended a performance in Jackson Hall wrote, "What a wonderful concert!! And no wine and food in the hall. Thank you for that." According to the written feedback reports collected by the Mondavi Center, most of the patrons who frequent the Center follow Western conventions and standards around the consumption of food and beverages inside a concert hall.

Let There Be Light: The Function of Sight in the Live Music Experience

For any music experience, everything that can be seen, beginning with the appearance of the musicians and the location in which the musicians are playing, influences the expectations as

well as the behavior of those who are part of it.[15] In this section, I examine the interrelation of sight and hearing by focusing on the role of lighting as a visual component that evokes, transforms, and defines space in the live music experience. Sight relies on light. The influence of visible light waves on humans has been studied and documented by researchers from fields such as biology and psychology. Biologically, the circadian rhythm, an internal 24-hour clock associated with the human sleep-wake cycle, is affected by the presence and absence of light. Depending on its color and brightness, light can advance or delay the release of melatonin, a hormone associated with the control of the sleep-wake cycle, potentially causing disruption in sleep and mood patterns (Boyce and Barriball 2010). On a psychological level, researchers have found that light can evoke pleasant or uncomfortable feelings based on its color and brightness (LeGates, Fernandez, and Hattar 2014; Küller et al. 2006). Aware of the effects of light on humans, for live performances, lighting designers try to select lighting that creates an atmosphere that complements the music and enhances its experience.

Every live music performance in the Mondavi Center has a lighting component associated with it. Based on my observations, this association is guided by the style of music being performed and aims to fulfill the expectations of the audience. Whether in Jackson Hall or the VST, during the 2019-2020 season, the use of lighting technology ranged from opening the curtains to allow the natural light through the windows at the VST to very elaborate light displays and performances with projected images synchronized with the music. In a live music performance, the lighting affects the perception of visual elements and influences the audience response to the performers and the space (Dunham 2019, 195 and 368). What follows is an elaboration of three functions that lighting fulfills in the performances at the Mondavi Center:

[15] I elaborate on the influence of space in the live music experience on Chapter Three.

seeing and being seen; setting the mood; and coordinating visual images with music. The examples I use to describe these functions are drawn from my fieldwork and represent a variety of music styles. My intention is not to compare these styles but to underline the significance of the relationship between the visual and aural elements that are part of a live music performance.

Seeing and Being Seen

There are two main lit areas in most formal Western performing spaces, namely the stage and the house, which the musicians and the audience respectively occupy. The lighting selection and design can match and enhance the mood set by the music. However, the lighting in each area may be completely different. For example, when a symphony orchestra plays, the lights on stage are bright mainly for the audience to see the orchestra during the performance. The stage lights also make it easier for the musicians to see the conductor and their music parts. Although there are some situations in which orchestra musicians use stand lights and the conductor is lit separately, stage lights still allow for them to see each other. Meanwhile, the house lights are dimmed, but not completely off, to frame the performance and create a serene yet solemn atmosphere. Having the "house at half" lighting in the audience chamber also allows the audience members to read the program notes should they desire to do so. For this type of music performance, the goal is to encourage the audience to observe the orchestra while listening to it, without visual displays that could distract the audience from their primary goal of listening to the music.

During a performance, musicians communicate with each other not only aurally through the music but with subtle movements that act as cues. Thus, light on stage facilitates the visual communication among musicians. For example, the Alexander String Quartet (ASQ), whose

repertoire is rooted in the Western canon, plays most of their concerts with slightly dimmed house lights, allowing them to see those who came to see them, their audience. In some cases, however, they have played for an audience in complete darkness. Violinist Fred Lifsitz, a member of ASQ, explained that such situations happen when the quartet is part of a performance with other artists, such as dancers, who want to avoid distractions while performing. Lifsitz expressed that he appreciates being able to see the audience. He says that all the members of the quartet share this sentiment, "because we want to get a sense if they [the audience] are restless, if they are smiling, if they are enjoying it [the music] … if they are even there."[16] Musicians in ensembles such as the ASQ need light to see each other, to read their music parts, and to visually connect with the audience. For the ASQ this visual connection is formed by having a lighting design that allows them and their audience to see each other during the performance.

There are other musicians whose concerts include colorful and elaborate graphics displayed on a screen on the stage while keeping the audience in complete darkness. Although the musicians may not clearly see the audience, the lighting design displayed is providing the audience with visual material to connect with the music. This was the case at American multi-instrumentalist indie artist Andrew Bird's concert in Jackson Hall on October 21, 2019. Bird's performance began in darkness with only one light on stage that emerged from the projection of a graphic design that depicted a door. Before walking on stage for the first time in this performance, Bird paused backstage in front of a light which cast his silhouette onto the lit image of the door. Subsequently, the image of his shadow on the door was duplicated and projected onto the top left side of the stage. Only the sounds of footsteps on the wooden floor of the stage could be heard at this point. As Bird proceeded to walk toward the front of the stage, bright

[16] Fred Lifsitz, interview with the author, June 22, 2020.

yellow and orange lights flared up, simulating flames alerting the audience to Bird's arrival. The audience erupted into applause. Once on stage, a bright spotlight was on Bird while he played a solo on his five-string custom-made violin that at times sounds like a viola due to its expanded musical range. This solo was a passage of what sounded like a Western classical composition that Bird played arco at a moderate tempo. After a two-second pause, Bird repositioned his violin and held it like a guitar. He began to play, pizzicato and at a much faster tempo, the introduction of his song "Effigy" from the album *Noble Beast* (2009). The rhythm on this introduction has a lilt that resembles those found in Celtic music. These two contrasting melodies are representative of Bird's background (he was trained as a classical violinist) and interests (his compositions often include characteristics of American and European folk music). The melody cued four other musicians—Tyler Chester, Madison Cunningham, Alan Hampton, and Abraham Rounds—to "walk through" the simulated door to join Bird on stage, at which point two more spotlights illuminated the areas at each side of Bird where the musicians were located. As the musicians settled with their respective instruments, keyboard, guitar, bass, and drums, one by one in that order they began to play accompanying Bird. Two minutes later, Bird took a couple of steps toward the back to activate his Janus Spinning Horn (JSH)—a spinning double horn speaker.[17] The spinning movement of the JSH was emphasized by two projected beams of purple light from lanterns placed on the stage floor (see Figure 1.2). The music played until this point served as a prelude to Bird's song "Sisyphus" from his album *My Finest Work Yet* released in March 2019.

[17] Made by Specimen Audio, horn speakers are high-fidelity speakers that spin creating a spatial effect that "envelops the listener" (https://www.specimenaudio.com/product/double-spinning-horn-speaker/). The shape of each horn is similar to the horn of a gramophone.

Figure 1.2 Andrew Bird's Concert – Janus Spinning Horn

Photograph by author.

The moment the band began to play "Sisyphus," the lighting design changed to include an increased number of lights and graphics. In addition to illuminating the stage, the lights were coordinated to allow the graphics that were projected to the back of the stage to be seen. The perfectly planned combination of visual imagery and the physical presence of the musicians resulted in a stage design that was, as a member of the MCAAC described, "fun and fit well with his [Bird's] sound." The lighting allowed the audience to see the musicians play and interact with each other. Throughout the entire concert the house lights were turned off and only the lights from the stage illuminated the space in Jackson Hall (see Figure 1.3).

Figure 1.3 Andrew Bird's Concert in Jackson Hall, October 21, 2019

Photograph by author.

Some artists who come to the Mondavi Center bring their own lighting and sound technicians; most, however, rely on Mondavi Center's house crew. The Mondavi Center crew members often learn about the needs and dynamics of the artist mere hours before a performance. Jessica Grimm, lead electrician for the VST, explained to me in an interview that lighting designers who are part of an artist's team don't necessarily travel with the artist. When the artist's lighting designer does not go on tour with the musicians, the designer typically sends notes about the design. For example, in the case of the Chicago based Spektral Quartet, a string quartet that focuses on performing newly written compositions, for their concert on January 31, 2020, Grimm received a digital file with the lighting design information. She had access to a light board that was compatible with the one used to create the design in the digital file. This compatibility allowed Grimm to run the pre-set lighting design. However, since the settings in the file were based on a different space from the VST, she still had to check with the director of

the quartet and adjust the intensity level of the lights.[18] Although lighting designers like Jessica Grimm are professionals with significant experience, working for a new artist can be a challenge. Lighting design for a music performance is different from other lighting designs, such as in television or movie sets, mostly because in most music performances the music is the primary center of attention.[19] Therefore, an essential role of these lighting professionals is to listen carefully to the music in order to react quickly to it. Depending on the music style, the lighting designer creates combinations of light displays in response to the music, reflecting the rhythm, melody, or emotion transmitted.

A case in point is Musica Nuda, an unconventional musical duo of voice and double bass from Italy. Petra Magoni is a vocalist with a visually expressive singing technique that involves making facial gestures and moving her entire body in exaggerated and unexpected ways. During a performance, Magoni may frown, smile, wink, twist her body to a crouching position, jump, clench her fists, or stomp her feet to highlight the emotion she intends her singing to express. Magoni's control of her breathing and body movements when singing makes her performance entertaining not only aurally but also visually. In addition to demonstrating precise control of her body movements, Magoni incorporates the microphone into the performance by experimenting with its positioning in relation to her mouth to create audible vocal effects. For Magoni, the microphone not only amplifies her sounds, but it allows her to expand the range of her singing technique. Just as adventurous is her performing partner, Ferruccio Spinetti, whose instrument is the double bass. He plays pizzicato as well as arco and often taps with his hands percussive rhythms on the body of his bass with his hands. In addition, he sometimes plays the bass while

[18] Jessica Grimm, interview with the author, July 14, 2020.
[19] Multi-media concerts, such as the one I write about in the third part of this section, are increasingly common and they challenge the notion that music performances are meant to be a completely aural event.

sitting down; he positions the instrument on its side and plays it like a guitar while it rests on his legs. Due to the audio demands in their performance, their sound engineer, who travels with them, is integral to the group and can be counted as a third member.

Although Musica Nuda travels with their own sound engineer, they depend on the venue's lighting designer to illuminate their performance. In November 2019, Musica Nuda played four nights in a row, Wednesday through Saturday, at the VST. For their performances, the chairs and round tables in the VST were configured into the "cabaret seating,"[20] and the battery-operated tea lights used to decorate the tables were the only source of light for the audience (see Figure 1.4.1, 1.4.2, and 1.4.3). Additionally, the VST's lead electrician, Jessica Grimm, placed several lights to create a display for the stage. The lighting for Musica Nuda had to be bright enough for the audience to see the musician's movements, to enhance and respond to the music, and to follow Magoni's interaction with the audience. Over the course of four consecutive performances, Grimm became more and more creative with the design incorporating combinations of colors and shapes. Remembering her experience working with Musica Nuda, Grimm mentioned some of the challenges she encountered—for example, having to sit "in the house" next to the audio engineer instead of working from the technical booth. Although this is not a typical workspace for Grimm, being there facilitated her communication with Musica Nuda's audio engineer. This communication enabled a more seamless collaboration between individuals who had not worked together before; during the concerts, the engineer provided Grimm with cues that guided specific lighting changes that complemented the aural characteristics and mood of the performance.

[20] See Chapter Three for more details on this seating arrangement.

According to some feedback provided by a member of the Mondavi Center Administrative Advisory Committee, Musica Nuda was "a performance where every second counts: as an audience member you are afraid of blinking because you might miss something amazing if you do." Having attended more than one of their performances, I can attest to the veracity of this assessment. One of my favorite moments took place on the Thursday night concert. After a performance in Italian of the song "Paint It, Black," originally recorded in 1966 by the Rolling Stones, for which lights flashed like lightning on stage, culminating with a brief moment of darkness, a soft hue of orange highlighted the stage. Magoni sat at the edge of the stage floor, about a foot from the audience, to sing an arrangement of the well-known Christian hymn "Amazing Grace," composed in 1772 by John Newton. The sounds of Magoni's voice were interwoven with a reverberation and echo effect of her voice. These sound effects on Magoni's voice were visually accompanied by a lighting design of a pattern of diagonal intersecting lines in black and white projected on the stage wall (see Figure 1.4.1). The visual light display mimicked the combination of Magoni's voice with the sound effects. At the end of the song, Magoni walked off the stage, into the dark. Then, on stage, Spinetti improvised a solo with interpolated phrases that hinted at the ballad "Over the Rainbow," composed by Harold Arlen with lyrics written by Yip Harburg in 1939. Halfway through his solo, the lighting changed to a combination of magenta on the stage and three bright yellow "flames" with orange hue projected on the wall (see Figure 1.4.2). Once Spinetti had finished his solo, Magoni then joined him on stage to begin singing the lyrics for "Over the Rainbow." A combination of light magenta and blue covered the stage with white circle outlines moving around as clouds on the background (see Figure 1.4.3). The different colors and shapes created by the lights moved with rhythms that mimicked the melody serving as visual representation of the music. The shapes and

colors supported not only the story content of the lyrics but also the emotional charge of the songs. All the visual information is part of the experience of Musica Nuda's live performance.

Figure 1.4 Musica Nuda's Concert at the VST, November 14, 2019

Figure 1.4.1 "Amazing Grace." Photograph by author.

Figure 1.4.2 Improvisation. Photograph by author.

Figure 1.4.3 "Over the Rainbow." Photograph by author.

In all concerts, any lighting used during a performance influences everyone who is watching within the musical space. Light helps the audience see the artists' movements, their facial expressions, their clothing, their instruments, and any prop used by the artists as part of the performance. In doing so, the lighting design leads the audience to particular interpretations of these movements, costumes, and props. For artists, part of the experience of playing in a live

performance is to feel the presence and see the reactions of the audience. Reactions such as nodding and waving the arms to the beat of a song became signs of approval to Musica Nuda, encouraging and energizing them throughout the performance. Additionally, being able to see how others are behaving or reacting to the music can generate behavioral contagion and affect the overall mood or energy of the event.

Setting the Mood

A memorable moment of my fieldwork research during the 2019-2020 Mondavi Center season occurred at the concert of the indie rock band from Brooklyn, New York, Beach Fossils on February 22, 2020. It happened when Dustin Payseur, the band's lead singer, asked for all the lights in Jackson Hall, including those on stage, to be "killed" or turned off (see Figure 1.5). To illuminate the space, Payseur invited the audience to use the flashlights on their cell phones. For a fraction of a second, the only lights I could see in Jackson Hall were those of the emergency exits and the light of the sound booth in the back of the hall (see Figure 1.5.2). Jackson Hall felt boundless. Under the lights of cell phones, I realized that I became more focused on the music and, for the first time in this concert, I felt connected with the audience.

That evening, Beach Fossils' musicians Jack Doyle Smith (bass), Tommy Davidson (guitar), and Anton Hochheim (drums), along with Payseur, played 16 songs, most at a fast tempo and some at a medium-fast tempo. However, the song "Sleep Apnea," part of their *Clash the Truth* album released in 2013, was drastically different from the rest of the set, in terms of tempo (considerably slower), dynamics (moderately softer throughout), and texture (mostly one prominent melodic line). In addition, Payseur's vocals were soft and hazy, as if he was whispering the lyrics, which sonically created a very mellow ambience. Visually, the sudden

replacement of the blue and magenta lighting design that had been illuminating the musicians on stage (see Figure 1.5.1) with the white light of the cell phones (see Figure 1.5.3) was strange yet peaceful. Furthermore, as the audience swayed their arms while holding their cell phones, the newly created lighting effect was rhythmically in sync with the song. Based on my reaction and the reactions of everyone else in the audience, Payseur's request was a welcome change.

Figure 1.5 Beach Fossils' Concert in Jackson Hall, February 22, 2020

Figure 1.5.1 Blue and magenta design. Photograph by author.

Figure 1.5.2 Lights "killed." Photograph by author.

Figure 1.5.3 Cell phones' light. Photograph by author.

This particular use of cell phones in a concert has been utilized by other musicians outside the Mondavi Center. Fans of the Irish rock band U2 have labeled "Milky Way" the section in a concert in which the band asks for all lights to be turned off and their fans use their

cell phone flashlights to illuminate the stage (Chesher 2007, 223). Candles, matches, and cigarette lighters had been commonly used in pop music concerts for this effect before cell phones were so widely available. This is a tradition that according to music critic Neil Strauss was first observed in the Woodstock Music and Art Fair held outdoors August 15-18, 1969. Strauss states that singer song-writer Melanie (Safka) was impressed by the crowd who had lit candles when she performed in the rain at Woodstock (1998). The sight inspired Safka to write the song "Lay Down (Candles in the Rain)" in 1970 (Ibid.). A month after Woodstock, on September 13, 1969, it is documented that during the Toronto Rock and Roll Revival festival record producer Kim Fowley asked the audience to hold up lit matches and lighters to welcome musicians Eric Clapton and John Lennon on stage (Grow 2015). Safety measures advise against the use of candles, matches, and lighters in concerts; therefore, as cell phones gained popularity, they became a safer replacement for their flammable counterparts.

The dramatic change of the lighting in Jackson Hall undoubtedly caught the attention of every person who was in the Hall. Not only did Payseur transform the space by creating the illusion of being in an outdoor concert with the use of the cell phone lights, but by radically altering the house and stage lights he also affected the ambience and overall mood of the concert. In interpretating the notion of "ambience," sound and media scholar Ulrik Schmidt defines ambience as "the production of a distinctive *effect* characterized by an *intensification of the experience of being surrounded"* (2013, 176). For Schmidt, ambience incites a feeling or mood. Thus, the modification in the amount of light had a direct effect on the ambience as it intensified the experience for those who were present. The intensity was raised by the immersive nature of the ambience that was created.

In addition to facilitating immersion, about which I write in Chapter Two, Payseur's request was a unifying experience for and with the audience. Holding a cell phone flashlight aloft, members of the audience were responsible for lighting up the stage. Suddenly, a device that can be a distraction and that is unwelcome in most of the concerts in the Mondavi Center became a contributor to the experience. In fact, the action of repurposing a cell phone in this manner enhanced and expanded its utilitarian claim as a communication device since its light served to strengthen the connection between the artists and the audience as well as collectively among the members of the audience. In doing so, this action becomes part of the Energy Transmission Loop.

Whether a cell phone, a candle, a match, or a lighter, the action of holding up a light during a rock or pop music concert has become a symbol that has both cultural and generational associations; however, it is also a symbol that represents emotions and accompanies the sentiment evoked by the music. Visually, the musical space resembles a starry night, an effect that creates a soothing and intimate ambience facilitating connections that become part of the Energy Transmission Loop. Furthermore, the affective meaning elicited by such ambience produces a memorable impression in everyone experiencing it.

Visual Coordination with Music

Light is integral to a successful music concert, and it fulfills many purposes. The previously identified functions of light in live music performances at the Mondavi Center, namely "seeing and being seen" and "setting the mood," underline that regardless of the music style, light facilitates the visual connection between artists and their audience as well as among members of the audience. However, there is another level of functionality in which light is

further integrated or visually coordinated with the music. In such cases, light facilitates the projection of visual artistic media such as curated images or film, not just lighting displays such as the ones described in the previous sections. When a production is based on the coordination and collaboration of two artistic media such as music and film, it is commonly referred to as a multi-media performance. In multi-media performances, the visual element takes on an equal footing with the music/sound element. An example of such audio-visual collaboration is the work that Melissa Aldana brought to the Vanderhoef Studio Theater in March 2020.

As part of the presentation of the suite *Visions for Frida Kahlo*, jazz saxophonist and composer Melissa Aldana, along with Sam Harris (piano), Pablo Menares (bass), and Kush Abadey (drums), collaborated with two visual artists in the VST. Together, musicians and visual artists combined audio and visual improvisations. They held four performances, March 4 - 7, 2020. The visual artists from Chile, Ana María Aresti and Diego Pequeño, collaborated with Aldana in the development of the visual images. Aresti and Pequeño produced digital images specifically for the music, which they projected on the wall behind the stage area. They recorded and edited the images into a visual narrative that reflected Aldana's compositional process by correlating her inspiration by the artistic creations of Mexican artist Frida Kahlo (1907-1954) with Aldana's own musical journey.

Aldana's composition displayed a careful balance between the images and the music. The creative and seamless integration of the audio and visual components was such that often, during the performances, I wondered which element was composed first. Aresti and Pequeño explained to me their creative process of *Visions for Frida Kahlo*.[21] Along with the music, Aldana provided Aresti and Pequeño with information about her family history and music writing process. Aresti

[21] Ana María Aresti and Diego Pequeño, interview with the author, March 7, 2020.

and Pequeño then gathered visual materials, such as images of Frida Kahlo's paintings and video footage they recorded at some of the places in Chile that Aldana frequented as a child. With that visual material, they created "structures or modules of images" using Modul8, software developed by garageCube that, once installed on a computer, facilitates visual composition during a live video performance. The image design was thus not completely pre-designed. Although the images were part of a video that had been previously recorded, the software allowed the visual artists to improvise during the performance by "playing with the colors" and by manipulating the speed at which an animated layer was digitally drawn and projected on the screen. Throughout the concert, the visual improvisation was closely related to the texture, rhythm, and melodic contour of the music Aldana's quartet was playing. Aresti and Pequeño listened attentively and provided the audience with a visual component that reflected and supplemented the expressivity of the music in real time. Similarly, the musicians were aware of the images that Aresti and Pequeño projected and responded to them.

In my interview with Aldana, she explained that two aspects of working on this project increased her awareness of her own compositional process, namely thinking about Kahlo's life and building with it a story into the music, and communicating it to the visual artists in order for them to create the visual composition.[22] Aldana did not want Aresti and Pequeño to create a movie; she wanted a story that, like her music composition, had set structures but also room for fluidity, room for improvisation.[23] The Modul8 software allowed Aresti and Pequeño to have sets of structured images while also creating improvised image sequences. The integration of the audio/visual improvisations in Aldana's concerts was not only the result of mindful and attentive listening, but also mindful and attentive observation by all the artists involved.

[22] Melissa Aldana, interview with the author, March 7, 2020.
[23] Ana María Aresti and Diego Pequeño, interview with the author, March 7, 2020.

Aldana's eight-movement notated composition was played during four consecutive nights, but due to the improvised sections, the performance of the composition was realized in a different way each time. In each performance, the visuals followed the changes associated with the music improvisation. To my eyes and ears, the visuals were a key contributor to my experience of the music. Similarly, a few audience members who provided written comments approved of the visuals: "That was one of the most creative performance[s] I have been to. Good for the Mondavi [Center] for hosting such an interesting combination of jazz and film." Although the visuals were not film, the animated videos crafted a narrative that could have easily been perceived as film by those not knowing how they had been created. Other patrons were not impressed by the visuals, writing comments such as "many of the visions got a bit boring with the repetitious riffs but the musicians were talented and kudos to the young lady for envisioning Frida Kahlo"; "[the visuals] didn't seem to add to or elucidate the music"; and "I found the video in the background distracting. The images of the (presumably) Chilean desert didn't fit the music." These comments indicate that for some members of the audience, the constant visual stimulation throughout the performance detracted from the auditory counterpart.

Visions for Frida Kahlo is an example of a project based on the collaboration of visual artists and musicians. In my interview with music composer Sam Nichols, he talked about his experiences writing contemporary Western music compositions in which visual and sonic components are equally important.[24] He described this kind of visual-sonic composition as complementary—a collaborative process where one element is not meant to accompany the other, but rather they are complementary. Like Aldana, Nichols spoke about how his compositional process was impacted by working in this kind of collaborative audio-visual

[24] Sam Nichols, interview with the author, June 7, 2022.

project. He explained that there is a "tension" between visual and sonic components. For Nichols, this tension emerges out of the different relationship these components have with time. He elaborated stating that "It changed how I think about the pacing and timing of my music . . . In a paradoxical way, it pulled me out of relying on the visual aspects of notated music."[25] This statement resonates with the approach Aldana and her quartet had toward her *Visions for Frida Kahlo* composition as reflected on the performances I attended. Although the music styles for which Nichols and Aldana compose are different, the experience of working on a music project in which there is an equally important visual component highlighted another dimension to music composition. This dimension is one that, as Nichols described it, "blurs the boundaries" between visual and sonic art considering them "equally complicit in creating the experience."[26]

Aldana's jazz composition *Visions for Frida Kahlo* exemplifies a style of audio-visual production that seeks to provide a multisensorial experience. There are other audio-visual media styles such as VJing, visual music, and expanded cinema. VJing is the real-time mixing of visual material synchronized to music. Visual music is based on the visual coordination of music or sound created by converting music/sound into visual forms or vice versa. Expanded cinema focuses on the immersive aspect of the audio-visual experience mainly associated with film. Media artist and scholar Grayson Cooke explains that the primary goal of these practices is to "immers[e] the audience member in an audio-visual experiential field such that the separation between audience and performance is elided" (2010, 196). Both sound and image are integral elements of these multi-media artistic expressions and together they converge to stimulate the senses of everyone present, creating deeper connections with and within the performance.

[25] Ibid.
[26] Ibid.

The type of lighting used in a concert is closely tied to the music style being performed. On the stage, lighting plays important roles. At the most basic level, light allows artists to see each other's visual cues; enables musicians to follow their printed music parts; and lets members of the audience see the action on stage. In the audience chamber, light may be minimized if artists want the audience to direct their attention to the stage. However, some artists, such as the members of the ASQ, prefer the audience chamber to be illuminated because they appreciate seeing the audience. The lighting used in a Western orchestra concert is somewhat bright and static. In such concerts one might think that visual information is not necessarily the focus since it doesn't change much over the course of a performance. Indie rock artists such as Andrew Bird hire lighting designers to create elaborate and artistic lighting designs to draw visual attention to the stage in addition to the music. Technology such as the Modul8 software application has facilitated the mixing of images on the spot that often complements the music by displaying intricate visual designs. Multi-media acts such as Aldana's *Visions for Frida Kahlo* demonstrate another level of the function that sight and visual components have in the live music experience.

The Performance of the Auditory System in the Live Music Experience

English speakers tend to conceive and associate music primarily with the auditory sense, which is why people commonly describe the experience as "listening to music." This statement, however, calls for refinement. In Chapter Two, I elaborate on the distinction between hearing and listening. For me, listening is an act that involves the entire body, an action conducted with intention and that devotes attention to the music. This understanding of listening belies any tendencies to limit music to audition and highlights the interdependence of the senses. I thus argue that listening to music with the auditory sense is only one aspect of the live music

experience, an active process in which all the senses participate. In the live music experience, listening to music is collective in nature and not limited to the audience.

During a performance, it is not just the audience who is listening; performers are listening as well, to themselves, to other musicians, and to the audience. The musicians I interviewed remarked on the importance of listening to these three sources to deliver what they consider an optimal performance, one in which the music is played to their standards and in which the audience is engaged. A representative example of this three-part listening practice occurred in Trey McLaughlin and the Sounds of Zamar's concert on Sunday, September 29, 2019, in Jackson Hall. Based in Augusta, Georgia, McLaughlin is a vocalist and composer who has been recording and performing with the ensemble the Sounds of Zamar since 2012. Their repertoire usually includes contemporary gospel, musical theater, and original compositions. Much of their music, especially the gospel songs, stimulates the participation of the audience. Some of the gospel songs they performed that day in Jackson Hall inspired people to praise, dance, clap, or sing. One gospel song in particular elicited a strong reaction from the audience in which audience and performers exclaimed the phrase "Christ is Risen" in a call and response section at the end of the song. I observed that the musicians seemed to be extending this interaction, possibly because the audience responded so enthusiastically. This was a very emotionally charged moment and is an example of the Energy Transmission Loop in action since the audience's energetic response encouraged the musicians to continue playing, maintaining the audience's enthusiasm. After the performance, I interviewed McLaughlin who confirmed that he had indeed extended the "Christ is Risen" section during the performance to keep the audience engaged. He alluded to the fact that when he sees and hears the audience's engagement, he cues the rest of the musicians with his singing to continue to allow the audience to experience the

moment.[27] McLaughlin and the rest of the musicians listen to each other as well, in part so they can create space for and foster such moments.[28]

The musicians and the audience collectively exchange information among themselves and with each other during a live music performance, and every individual reacts differently to the information received. In *Deep Listeners: Music, Emotion and Trancing,* ethnomusicologist Judith Becker (2004) proposes the concept of "habitus of listening" to evaluate the factors that influence the development of our innate ways of listening and the causes of emotional responses that arise during the listening experience. This approach focuses on the individual as the emotion felt is both internal and personal, yet the individual projects it externally. The externalization of the emotional change is a conduit for the listener to influence and continue to be influenced by the world. In other words, our listening habits, although personally experienced and part of the self, are culturally constructed. For instance, most listeners in audiences for symphony orchestra concerts have been conditioned to sit down and quietly watch from afar within the space limitations of a performance venue. Although some people in the audience may be moved to tears, overt emotional displays during such events are rare. In contrast, the reaction of McLaughlin's audience—the members of which are culturally tied to African American Christian worship, which encourages emotional displays (Costen 2004)—suggests an audience predisposed to be physically and emotionally involved in the performance. For such an audience, recognizing and physically reacting to the music is second nature.

In the previous section, I explored the interrelation between the auditory and visual senses. I now focus my analysis on speech and listening to music as part of the auditory sense and their influence on physical manifestations in those experiencing live music. Sound is a

[27] Trey McLaughlin, interview with the author, September 30, 2019.
[28] In Chapter Three, I write about how moments like this one transformed Jackson Hall into a "Church."

communication medium interpreted mainly through the auditory sense. Charles Seeger considered music and speech as "the two principal systems of auditory communication" (1977, 21). These two human-made systems are analogous and separate, yet complementary; Seeger argues that one can communicate what the other cannot (Ibid., 16, 27). For Seeger, speech has a lot of limitations, such as lack of specific vocabulary for certain concepts, which he describes in terms of mentionability—if something cannot be mentioned because there is no word for it in language, then that something can be described in indeterminately number of ways (Ibid., 24). Speech then communicates by "sounds that symbolize," while music communicates by "sounds that are themselves" (Ibid., 30). In what follows, I first evaluate the information that vocal expressions as acoustic cues convey during a live performance. I then continue with an examination of the link between listening practices and audience participation and propose that listening is a form of active participation even when that participation appears passive to others. This section on the auditory system leads to another that focuses on the kinesthetic or tactile interrelation with the auditory sense in which I expand on the concept of listening as performance.

Vocal Interactions

During a live performance, the audience shares the space with the artists as well as with other members of the audience. In this space, vocal exchanges between artists and their audiences become part of the Energy Transmission Loop characteristic of the live music performance. The word *interaction* effectively describes this process of communication. Interaction is a word composed of the prefix *inter* which means "between" and "reciprocally," and the noun *action,* "doing something." What follows is an overview of the kinds of vocal

interactions I heard most often during my fieldwork. Based on the content expressed, I identify three categories of vocal interactions that may occur during the live music experience: emotive, discursive, and contextual. Emotive vocal interactions are characterized by bursts of energy expressed mostly by the audience, and in some music styles by the artists, through a word or a shout. A vocal interaction is discursive when emotion is expressed through a sentence (or more) that an artist shares with the audience that may or may not relate to the music. Contextual vocal interactions consist of information given to the audience with the intention to provide context to the music. It is not uncommon to hear all three of these vocal interactions in any live music performance. However, there are specific characteristics such as their content and the time it takes to express them that may increase the likelihood of encountering them in concerts of specific music styles.

Emotive Vocal Interactions

Depending on the music style presented in the concert, members of the audience very often shout out exclamations such as "Bravo!," "Woohoo!," "Yeah!", and/or random vocalizations to express their approval and satisfaction with a performance. These vocal expressions are articulations of praise that communicate emotions, and specific styles of music often have a whole array of them along with conventions about when they are appropriate to use. In such music styles, yells and shouts by the audience are an integral aspect of the performance and the inappropriate use of such vocal expressions might throw performers and/or audiences off kilter. For example, ethnomusicologist Yeonok Jang (2001) points out that throughout the history of the Korean tradition of *p'ansori*, singers have relied on their rapport with the audience to fuel their energy during a performance. Shouts of encouragement in p'ansori are specific

words called out loud by the audience during specific moments of a performance. In essence, the traditional p'ansori audience is also a performing audience. Jang explains that p'ansori performers are keenly aware of their audience and often know the type of songs they want to hear based on their rapport. On the other hand, an audience in a symphony orchestra concert may provide vocal feedback at the end of a piece or of the performance. To do so any other time would be frowned upon and could potentially disrupt the experience for other members of the audience as well as the performers.

The word *bravo* originated in Italy, and it is used to celebrate excellence in a performance (Kennedy, Kennedy, and Rutherford-Johnson, 2012). Perhaps the word acknowledges the courage performers must exhibit when demonstrating their art in front of an audience. Often, in the Mondavi Center, I have heard members of the audience shout modified versions of the word such as *brava* for a solo female performer or *bravissimo*, the masculine superlative of "bravo." However, from an English grammatical standpoint, gender specificity is not required—the word "bravx" may begin to replace its gendered counterparts. Nonetheless, members of the audience who exclaimed out loud the grammatically correct Italian iteration of praise did so proudly. Musicologist Pierpaolo Polzonetti sarcastically describes the audience's declension of the adjective in the United States as a "virtuosic display of linguistic competence."[29] Polzonetti's description reinforces the argument that in a concert hall the audience is also performing.

For the Mondavi Center's audiences shouting "Bravo!" is commonly the preferred expression of praise as I heard it at many concerts regardless of the music style being performed. However, I did encounter exceptions during my fieldwork. While I did hear a couple of "Bravo!" shouts, *"¡Arriba Lila!"* (Hurray for Lila!) and *"¡Qué viva Lila!"* (Long live Lila!) were the

[29] Pierpaolo Polzonetti, personal communication with the author, October 22, 2020.

vocal praises of choice for the audience of Mexican singer-songwriter, Lila Downs during her concert in Jackson Hall on October 10, 2019. In addition, the iconic Mexican *gritos* (shouts) which can be uttered by members of the audience as well as by musicians, served their function as the ultimate expression of approval, comradery, and unifying connection between Downs and her audience.[30] Unlike "Bravo!," which in the Mondavi Center was most commonly heard from the audience at the end of a concert, these expressions of praise in Spanish were peppered and interjected throughout Downs' performance.

From the moment Downs stepped on stage, she created a relaxed, welcoming, and inclusive atmosphere which to her audience meant that they could explicitly express their emotions during the concert. In addition, Downs' audience came prepared for an interactive experience; they came prepared to perform. Whether the audience exclaims "Yeah!," "Bravo!," "¡Arriba!," or "¡Qué viva!," these emotive vocal expressions become a form of currency; the more they are called out, the greater the encouragement for the artist to maintain their stamina during the performance and possibly perform an encore. In the performances I attended at the Mondavi Center, it was these words and not the actual word "encore" that people used. In Lila Downs' concert, the audience also relied on the very explicit Spanish request of shouting *"¡Otra!"* (Another! or Encore) at the end of her performance. That evening at the Mondavi Center, Downs pleased her audience by performing two encores. When she was not singing, Downs interacted with the audience by speaking, in English, Spanish, and even indigenous languages from Mexico, about her music, her roots, and her country. Such vocal interactions from Downs, however, were not "emotive" since she offered more than shouts, she spoke in complete sentences. This type of vocal interaction I categorize as "discursive."

[30] See Bakan 2012, 241; Salinas 2016, for further discussion on the use of *gritos* in performances of Mexican music.

Discursive Vocal Interactions

The amount and nature of verbal interaction with audiences varies from concert to concert; some artists do not talk at all to the audience, some sporadically make a comment or share a story, and some are masters at weaving storytelling into their musical performances. While the content of what I am calling 'discursive vocal interactions' is not always related to the music (as in 'contextual vocal interactions' which I explain next), the conversational nature of the discursive vocal interactions greatly influences the musician-audience connection. American singer-songwriter of country music John Prine was a perfect representation of the latter skill. During his October 4, 2019, performance in Jackson Hall, Prine kept the attention of the audience the entire time he was on stage. In fact, for my interviewees, this telling of stories in between songs, regardless of their length and whether they have any connection with the music, is what made the live John Prine experience unique. One person emphatically praised Prine for "his stage presence" and the particular way in which he "talks to the audience"; for this person, Prine was "a philosopher." In this concert, Prine displayed wit and an impeccable sense of humor. After a song, as Prine switched guitars, a member of the audience shouted the name of a song; to this request Prine promptly and calmly replied, "the songs in this set are in alphabetical order," a response that evoked laughter from the audience because of its clearly outlandish premise. The excitement of Prine's audience was such that some expressed it through emotive vocal interactions. The shouting in between songs occurred throughout the entire performance. In addition to the emotive shouts, the audience interacted with the artist using discursive sentences which expressed their love by hollering "John Prine, you're the man!" or "You're amazing, Mr. Prine!" and even more direct lines such as, "I love you, John Prine!" or "That was orgasmic!"

As described in the above examples, emotive and discursive vocal interactions can be expressed by either the audience or the musicians. Emotive interactions are short burst of emotion expressed through few words or shouts. The content in discursive interactions ranges from brief expressive sentences to stories that the artists share with the audience throughout the performance. These stories may or may not relate directly to the music being performed and they appear as spontaneous moments in which artists share information to enhance and strengthen their connection with the audience. However, some artists may choose to incorporate lecture-like commentary into their concert, offering the audience contextual information about the music they are performing.

Contextual Vocal Interactions

In addition to emotive and discursive interactions, there is another distinct vocal interaction that I observed during my fieldwork, one in which structured, and lecture-like material is integrated into the performance. Due to the content and the formality of how it is shared with the audience, I have categorized this vocal interaction as "contextual," and it is commonly implemented at the Mondavi Center by the Alexander String Quartet (ASQ).

Based in San Francisco since 1989, the ASQ is internationally recognized for its interpretations of chamber music.[31] At the time of my research, the ASQ members were Zakarias Grafilo (first violin), Frederick Lifsitz (second violin), Paul Yarbrough (viola), and Sandy Wilson (cello). Since the 2008-2009 season, the ASQ has performed in the Mondavi Center three or four Sundays per season. On those Sundays, they offered two performances at the Vanderhoef Studio, one at 2pm and the other at 7pm. Although the Quartet prepares the same repertoire for

[31] See https://asq4.com/about/ for more information about the ASQ (accessed January 05, 2023).

both performances, the format of the concerts provides different interfaces for the audience to engage with the performance: one integrates a guest speaker into the performance and in the other, the artists provide commentary as well as a Question-and-Answer (Q & A) session at the end of the performance. These two formats differ from the conventional approach in which potentially well-known repertoire is played without any comment. The ASQ was programmed to perform all 15 of Dmitri Shostakovich's string quartets throughout the course of the 2018-2019 and 2019-2020 Mondavi Center's seasons.[32] Both the 2pm and the 7pm concerts offer more than the rendition of a musical composition that is most often heard through a commercial recording.

At the 2pm performance, musicologist Robert Greenberg joins the Quartet to talk to the audience about the repertoire ASQ has programmed. Greenberg provides historical, biographical, and contextual information on the composer(s) and their composition(s). Sandy Wilson, cellist for the ASQ, remarked that Greenberg "gets us all [audience and musicians] into the same headspace"[33] though the entirety of Greenberg's commentary is sometimes longer than the performance time of the Quartet. For some members of the audience, there is "too much talking." However, several of my interviewees expressed their appreciation for the information Greenberg provides.

The approach for the 7pm concert is different. Although the repertoire performed by the Quartet is the same as the 2pm concert, Robert Greenberg is absent and instead the musicians themselves verbally share brief pieces of information about the compositions with the audience before playing. In addition, once the concert is over, the audience has the option to stay for a post-performance Q & A session with the musicians. For the most part, the information

[32] Dmitri Shostakovich composed 15 string quartets between 1938 and 1975. During the 2018-2019 Mondavi Center season, ASQ performed quartets number one through six, and the rest, seven through fifteen, were performed in the 2019-2020 season.
[33] Sandy Wilson, interview with the author, June 27, 2020.

discussed in these Q & A sessions is very different from Greenberg's lectures; in Greenberg's lectures the information the audience receives is centered on the music, its composer, and the historical nuances that influenced the composition. In these Q & As with the members of the Quartet themselves, the audience tends to ask questions about the musicians and their relationship with the music, their playing techniques, and their opinions on the compositions. In essence, the Q & A sessions are a conversation between the audience and the Quartet unlike Greenberg's lectures in which the audience's reaction is limited by the format.

Based on ticket sales, the 2pm performance is more popular. However, during my interviews, some attendees indicated that they simply preferred the afternoon performance time clarifying that their choice was not necessarily linked to Greenberg's presentation but to the convenience of the time. Nonetheless, having heard and read the feedback from some patrons, I realize that Greenberg's sense of humor, charisma, and scholarly research make him an effective, appreciated, and respected public speaker, at least for the Mondavi Center's audience. As a patron wrote in the feedback report, "Their [ASQ] performances are enjoyable and Robert Greenberg adds so much to the experience."[34] Greenberg's vocal communication of his perspectives adds and most likely influences the afternoon audience's interpretation of the music, while the audience who comes in the evening experiences the music and then has the opportunity to talk about it with the musicians.

Having attended three Sunday performances at both, 2 and 7pm, I felt a deeper connection, enjoyment, and understanding of the music in the evening, but most likely my level of satisfaction exceeded my expectations because I had been to the 2pm concert and had time to process the information Greenberg had provided. Furthermore, listening to the pieces twice in

[34] I reference other comments on Robert Greenberg in Chapter Three.

close succession most likely benefitted my evening concert experience. I also appreciated the candidness and spontaneity with which the members of the ASQ responded to the questions raised by the audience. The Q & A session felt cathartic, as a debriefing session, for both the artist and the audience. I present this self-reflective observation because it is representative of how being familiar with the music may influence the experience. Unfortunately, I did not identify any other members of the audience who attended both the 2 and 7pm performance on the same day to compare notes on my experience.

Besides ASQ, other artists also commit to holding Q & A sessions after the concert and/or pre-performance talks or interviews as an additional opportunity to connect with the audience. However, pre-performance talks at the Mondavi Center are commonly offered by a guest lecturer who provides relevant information about the music being performed. While the content of these presentations may be of a similar nature to Greenberg's commentary, the pre-performance talk is not as integral a part to the concert, in fact, many people miss it. Unlike Greenberg's presentation which is integrated into the performance, pre-performance talks are optional as they occur before the actual performance, and not during. Based on my observations, attendance to these pre-performance talks in the Mondavi Center varies anywhere between 10 to 50% of the patrons who purchased tickets to the concert. Only eight people mentioned these talks in their feedback report, and three of them were in reference to the pre-performance talk for the Harlem 100 performance on November 22, 2019, given by Professor Bruce Haynes from the Department of Sociology at UC Davis. Haynes spoke about the history and significance of the Harlem Renaissance. For the three patrons who included their opinion about the talk on their feedback, the pre-performance talk was "excellent"; could have been "longer"; and the third patron confessed that they "learned a lot." In general, the information shared in these pre-

performance talks intend to enhance the experience of the actual performance, facilitate the artist-audience connection, and set the foundation for the artists to support and maintain their stage persona.

Developing a stage personality beyond the music performance is often part of the live music experience. Lila Downs' and John Prine's audiences felt comfortable shouting their praises as much as they did because during the performance these artists maintained constant communication, not just through their music but with their vocal interactions, creating a rapport that exuded gratitude for their audience's appreciation and space for a kind of limited dialogue. Other artists whose music by reputation attracts a quieter audience also speak to the audience in between compositions commonly eliciting reactions such as laughter and shouts in return. Although the music style played in the concert may have audience behavior protocols associated with it, I propose that it is the artist(s) who reads the audience in order to guide and enable the various forms of audience participation.

Guiding the audience by explaining conventional audience participation activities associated with the musical style, such as shouts, discursive responses, movements, and claps effectively engages the audience not only with the musicians but also with their fellow audience members. In her research on the actor-audience encounter in theater, drama studies scholar Caroline Heim argues that "audience responses actually contribute to, inform and alter the onstage performance" (2016, 2). When musicians guide the audience's behavioral response, they are laying the foundation for an effective Energy Transmission Loop. For example, when the Irish band Danú performed in Jackson Hall on December 14, 2019, the musicians paved the way for the audience to participate by explaining some of the lyrics and elaborating on the use of shouts. Danú provided these instructions in a very clever, friendly, and unpretentious manner in

between songs. On one occasion, Éamon Doorley, the bouzouki player, talked about how he has been collecting the different hollers that are associated with each county in Ireland. As he spoke about the shouts, he asked members of the band to demonstrate the shout from their region and asked the audience to replicate it. As with the Mexican gritos in Lila Downs' concert, these shouts in Irish music are emotive vocal interactions, a form of encouragement that connects the audience with the artists.

Arguably, the information Doorley shared with the audience could be considered contextual. I categorize it as discursive because of the conversational nature in which it was communicated and talking about the shouts in Irish music was not a central topic of the concert. With his discursive vocal interaction, Doorley not only shared information with the audience but also demonstrated the link of the shouts with regional identity taking the audience on a journey through Ireland. The explanation about shouts was educational and more importantly invited the audience that night at the Mondavi Center to have an active role in the performance. In addition, as the artist was going through the regions, people in the audience cheered indicating that they had an association with that geographic area. The few voices cheering indicated that they were offered by a small portion of the audience. Unlike Lila Downs' audience, who needed no explanation or cue for when to express their emotive shouts, the majority of the audience in Danú's concert were most likely unfamiliar with Irish music traditions. Thus, with the information he provided, Doorley guided the audience through the experience. This guidance is crucial as it debunks the expectations the audience may have about musical spaces such as Jackson Hall, spaces that come across as "rigid" or "serious" because they were built for the presentation of particular music styles but end up hosting performances from a wide variety of styles.

Originally from Waterford, Ireland, Danú is a septet dedicated to the propagation of Celtic, especially Irish, traditional music. In addition to the demonstration of shouts, that evening Danú's audience also learned a section of a traditional Irish Christmas song first published by C. Frank Horn in 1883 and titled "Miss Fogarty's Christmas Cake." The song was framed by Benny McCarthy, Danú's button accordion player, who made the audience laugh with the amusing story of his family's traditional Christmas cake—a cake that is beautifully decorated but traditionally remains untouched throughout the Christmas holidays and has lasted even until Easter allowing its ingredients to ferment in brandy. This story was the perfect prelude to the song for which singer Nell Ní Chróinín taught the chorus to the audience and requested them to sing it with her. The song is in compound meter in a verse-chorus form which offered four more opportunities, after the practice round, for the audience to sing along during the chorus. Ní Chróinín introduced the lyrics of the chorus letting the audience know that they could take note and make the cake themselves since the chorus lists the ingredients of Fogarty's Christmas cake. At that point in the evening, I heard the audience laugh and sing along as Ní Chróinín taught the humorous lyrics which she did by singing at a slower tempo and breaking down the eight lines of the chorus; she recited each line, and the audience repeated it. I can confirm that those around me sang along as Danú performed the entire song. Four members of the Mondavi Center Administrative Advisory Committee were at the concert and in their evaluations they all indicated that people around them were singing along with the band at various moments throughout the performance. Each of the evaluations had a remark about the effectiveness of the Irish troupe at engaging with the audience and about their experience learning the lyrics and factoids about the Irish culture. One of the members wrote, "I really liked the way the songs were personalized with stories about Irish poems memorized at school or tales of whiskey-soaked Christmas cakes." With their vocal

interactions, McCarthy and Ní Chróinín effectively enhanced the audience's understanding of the song, even if nobody actually made the cake at home.

Emotive, discursive, and contextual are the three kinds of vocal interactions that I encountered in the music performances I attended at the Mondavi Center during my fieldwork. I have named them with the intention to highlight their basic characteristics, however, I realize that there is overlap within them and their use. Through their vocal interactions, musicians and members of the audience enhance their live music experience. The emotive shouts signaled to Lila Downs the immediate approval of her audience. With the socio-historical background ASQ's contextual vocal interaction provided about the music they performed; they brought a sense of intimacy to their performance adding an extra layer of connection with the audience. Danú's guidance expressed through their discursive vocal interactions gave the audience confidence and explicit permission to participate by singing, clapping, and offering shouts of encouragement throughout the concert.

The effectiveness of the vocal interactions carried out between musicians and their audience is strongly associated with the physical presence of artist and audience within the same spatiotemporal boundaries. Without the sharing of the space and time, the vocal communications would be just "actions" generated by the artists that later will be heard by an audience. Even during a live-streamed performance the vocal exchange may not fully develop as the audience's connection with the artist and other members of the audience is limited by not being in the same space and often by time delays. As a consequence, the "actions" of the audience such as laughter, applause, and shouts, may possibly be lost as they are often the result of a contagion effect produced among members of the audience. In other words, for the vocal interactions between

artists and their audience to be effective and become part of the Energy Transmission Loop they must occur in the collective environment of a live music experience.

Listening as Performance

In his book, *Music as Social Life: The Politics of Participation*, ethnomusicologist Thomas Turino (2008) distinguishes two distinct types of music creation, namely participatory and presentational performance. For Turino, the behavior of the audience determines whether a performance is participatory or presentational. In a "participatory" performance, the audience is an active contributor to the music. Dancing, singing, clapping, and playing musical instruments are ways in which an audience "actively contri[butes] to the sound and motion of a musical event" (Ibid., 28). On the other hand, a "presentational" performance is one in which the roles of the artist and the audience are clearly separated: one presents while the other absorbs or consumes. A significant difference between participatory and presentational performance is in how their value is assessed. The value of participatory performance is measured based on the "degree and intensity of participation" (Ibid., 33), that is, the number of people drawn to participate and their degree of involvement. However, in a presentational performance, the musicians are expected to show off their skills, which the audience acknowledges by quietly listening to and judging the performance. Although this binary is an oversimplification, it serves as a departing point for my description of the kinds of interactions that may happen in a music performance.

Turino provides taxonomic characteristics associated with participatory and presentational performances. Based on these characteristics, in Turino's analysis, participatory and presentational performances lie in opposition to one another. He identifies two categories of

participatory performances, "simultaneous participation" in which everyone involved participates as a group at the same time, and "sequential participation" in which everyone involved takes turns to participate. Musicologist Jutta Toelle and music psychologist John Sloboda broadened Turino's description of participatory performances by interpreting the participation of audience members as performers. They did so through research conducted in four concerts held in three European cities, namely London, Frankfurt, and Den Bosch. The concerts were part of a project known as CONNECT that intended to create a collection of music with public participation (Toelle and Sloboda 2021, 70). For the concerts in which Toelle and Sloboda conducted their research, CONNECT had commissioned two composers to write new compositions for which they were to include sections for the audience to participate. Toelle and Sloboda called this kind of performance dependent on audience participation "outcome oriented participatory performance" (2021, 68).[35] Like Toelle and Sloboda, I find Turino's model helpful in refining my own taxonomy of audience participation within a "presentational" mode of engaging with music in a performance. Building on Turino's "presentational" model, I search for potential descriptions of the participation of an audience. An examination of the following three events illustrates some possibilities.

Event Number One – Pink Martini

Established by pianist Thomas Lauderdale in Portland, Oregon, Pink Martini is a band of twelve musicians who perform a repertoire inspired by songs from around the globe in a variety of languages and music styles, such as classic ballads, jazz, and popular pop songs. As part of their concert in Jackson Hall on December 17, 2019, Pink Martini included a rendition of "I Am

[35] See also Hödl et al. 2020.

Woman," a song first released (performed by Helen Reddy) in 1971. Helen Reddy and Ray Burton wrote the lyrics that laud women's empowerment and made "I Am Woman" an anthem for the women's liberation movement. Before starting the song, singer China Forbes invited women and men in the audience to come up on the stage in Jackson Hall to sing with her. Having roughly over 50 people on stage, Forbes cued Lauderdale by asking "What do you think, Thomas? Is it sufficient?" at which point Lauderdale began playing chords in the piano setting the key and rhythm for Forbes and the audience to follow. For the first verse, Forbes was accompanied by piano and strings; drums and percussion joined at the end of the verse. Pink Martini's brass section only played during the chorus, bolstering China Forbes's dominant and well-projected voice. As the song progressed, Forbes continued to cue the audience's participation. Forbes had everyone in the auditorium clapping to the beat at the beginning of the second verse, and for the third verse every woman was asked to stand and sing along. The women on stage followed Forbes' dancing, clapping, and singing encouraging those who remained off stage to participate. As a woman and member of the audience myself, this was a memorable and inspiring moment for me. By the end of the song, more than a thousand members of the audience performed along with Pink Martini as if they were "members" of the performing group.

Event Number Two – Lila Downs

Ahead of the Mexican holiday of the Day of the Dead, celebrated on November 1 and 2, the Mondavi Center presented Lila Downs on October 10, 2019. Born in Oaxaca, Mexico, Downs is a singer-songwriter whose music is influenced by her Indigenous and Mexican roots mixed with an array of rhythms and sounds from styles such as U.S. American blues, Spanish

ballads, and Cuban boleros. In the lobby of the Center, the prevailing language spoken by audience members was Spanish. That evening, members of the Latin American community constituted the majority of the audience in Jackson Hall. A charismatic performer, Downs did an excellent job connecting with the audience and performing her original compositions as well as some well-known popular Mexican songs. A screen on stage on which random images of the audience, captured by one of her crew members, were projected at various times during the performance reinforced Downs' connection with the audience. Her connection with the audience was such that on several occasions, people approached the edge of the stage to give her presents such as flowers and gift bags. At one point, a man brought up his guitar for Downs to autograph it. The audience in this performance did not need an invitation or any kind of cue to participate; they were very spontaneous and felt free to express their excitement by clapping, dancing, singing (loudly) along, and even approaching the stage throughout the concert. The audience's enthusiasm was palpable, especially when Downs sang "Paloma Negra," a *ranchera*[36] written by Tomás Méndez and originally released by Chavela Vargas in 1961. "Paloma Negra" is a well-known Mexican song, and it was requested by members of the audience who shouted its title several times throughout the concert in between the other songs. Lyrically, the song depicts the emotions felt by a person who has been left heartbroken by their lover, and these mournful feelings are enhanced by the music. Once I heard Downs' interpretation of the song, I understood the reason behind the audience's persistent requests. That evening, Downs didn't just sing, she infused emotion into every word of the song, inspiring the audience to sing along with her.

[36] A *ranchera* is a verse-chorus song—the verses are usually meant for a solo singer who is joined by other singers in the chorus. It is characterized by slow tempo in duple or triple meter, and it is commonly performed by *mariachi* ensembles as well as many other different regional Mexican ensembles (Moore and Clark 2012, 98-102).

Throughout the song, the audience also interjected the traditional and emotional *gritos* or shouts, especially at moments of the song in which Downs sustained a note for a long time.

Event Number Three – San Francisco Symphony

Founded in the early 1900s, the San Francisco Symphony is an orchestra that, under the guidance of a conductor, performs Western classical music written by composers from around the world. On Saturday March 7, 2020, a week before the US government declared a state of emergency due to the COVID-19 pandemic, the music director laureate of the San Francisco Symphony, Michael Tilson Thomas, greeted the concertmaster by bumping elbows instead of the customary handshake as a sign of concern for the highly transmittable disease. This act elicited laughs and applause from the audience. Thomas effectively connected with the audience without speaking a single word. He then proceeded to conduct Gustav Mahler's Symphony No. 9 in D Major/D-flat Major, composed in 1908-09. Written for a large symphony orchestra, Mahler's Ninth is structured in four movements rich in complex rhythms, opulent counterpoint, and contrasting dynamics. For approximately 90 minutes, the audience sat and listened to the orchestra, containing their applause until Thomas lowered his arms at the end of the fourth movement. The extremely quiet dynamics with which the symphony ends call for the audience to carefully listen and/or observe the conductor in order to applaud at the appropriate time. That evening, the audience knew exactly how and when to respond to the performance. In essence, Thomas had also "conducted" the audience.

The examples of Pink Martini, Lila Downs, and the San Francisco Symphony demonstrate that Turino's model is incomplete; there is more than one kind of presentational

performance, and some resemble, albeit not fully, a participatory music-making style. In the Mondavi Center, the distinctive audience-artist roles are reinforced by the arrangement of the space[37] which is designed for presentational performances since the audience is clearly separated from performer(s). Due to this physical separation, these events, like most performances in the Mondavi Center, fall under Turino's presentational category. In addition, the audience most often comes prepared for a presentational style performance. However, even when the audience is sitting quietly during a performance, they share the responsibility for the formation and development of that musical event with the performers. What does change, however, is the type of artist-audience interaction. Given the inflexible nature of Turino's binary, I propose an expansion of his "presentational" performance to include a variety of levels and types of audience interactions with the artists presented as a continuum between presentational and participatory performances. Based on my observations and analysis, there are two very distinct types of interaction, which I call explicit and implicit.

In the first two events, Pink Martini and Lila Downs, there is an explicit interaction between the artists and the audience. This interaction is explicit because the artists and the audience undoubtedly interacted. However, these two examples of "presentational performances" have different types of explicit interactions. In the first event, Pink Martini, the explicit interaction is elicited by the artist. China Forbes, the lead singer, invited the audience to go up on stage and participate with the rest of the musicians. With the stage filled with people, Forbes extended the invitation to those off stage, leading them to clap, sing, and stand. In the second event, Lila Downs, the explicit audience-musician interaction was spontaneously generated by the audience. Downs' encouragement was not required as the audience was ready

[37] See Chapter Three for discussion of space.

to sing with or without an invitation. These two forms of explicit interactions are common in a variety of music styles. A spontaneous, explicit interaction is dependent on the audience's familiarity with the artist as well as with the conventions the artist follows. The atmosphere created by the artist during the performance is also significant in sustaining such interaction. The elicited explicit interaction is exclusively initiated by the artist.

In the third event, the San Francisco Symphony concert, the interaction is not plainly expressed; it is implicit. Christian Baldini, music director and conductor of the UC Davis Symphony Orchestra, describes perceiving "a certain kind of energy" from the audience that influences the amount of energy he, as a performer, contributes to the performance. It is a type of conversation and the energy exchanged determines its dynamics, he explained. This exchange begins the moment he walks on stage and greets the audience, and although brief in time, it allows him as a conductor to sense the general mood of the audience. "It is amazing how much you can sense from that brief moment," Baldini said.[38]

Once the orchestra begins to play, the audience performs its part by actively paying attention. Sitting is an embodied practice for both the audience and the performers. During our conversation, Baldini reminded me of how some members of the orchestra sit quietly for measures, sometimes entire movements, waiting for their moment to play.[39] For instance, in Ludwig van Beethoven's Symphony No. 5 in C minor, Op. 67, written between 1804 and 1808, the trombonists only play in the final movement, and though they are on stage with the orchestra, actively listening and perhaps following their part, their bodies are sitting quietly, similar to a member of the audience. While the audience does not commonly have the music parts, it takes its cues from the sounds and the musician's and conductor's arms and hand movements.

[38] Christian Baldini, interview with the author, July 21, 2020.
[39] Ibid.

These events represent a range of levels of audience involvement with the performance. While the auditory and visual senses are primarily responsible for such involvement, its representation is exteriorized physically through the body in different participatory ways. These participations are not necessarily fixed as they hold characteristics that can be displayed at different occasions throughout a performance. Pink Martini's concert began as a presentational-oriented performance. However, as the artists connected with the audience, creating an atmosphere that encouraged participation, Pink Martini successfully led the audience into a presentational performance that explicitly exhibited characteristics of a participatory performance. The spontaneity of the Lila Downs' audience demonstrated that sometimes it is the audience who moves the dial on the presentational and participatory performance meter. In the case of the San Francisco Symphony, the participation of the audience is implicitly expressed during the performance, until the end of a piece at which moment the audience responds with applause and often with vocal expressions. In essence, these examples highlight my contention that if there is an audience, no performance is completely presentational. Although I have suggested possible expansions to Turino's categorization of a presentational performance, I contend that these types of categorizations are not useful to explain the live music experience. Instead, I propose an examination of the types of interactions (among musicians, among members of the audience, and between musicians and members of the audience) that develop, and their influence in the Energy Transmission Loop.

The Embodied Sense of Touch

At its most basic level, the sense of touch develops through the skin, the body's largest organ. Kinesthetic sensations, beginning perhaps with feeling the texture of the materials that

cover the seats in Jackson Hall or the tablecloths used in the VST, trigger associations with the expected norms of behavior in such an environment. It is through touching, as Charles Seeger explains, that humans perceive "tactile communication" which "is produced by bodily movement" (1977, 21). Dance is a form of bodily movement that Seeger identifies as a system of tactile communication.

Through their bodies, human beings sense, move, communicate, and experience life. According to anthropologist Thomas Csordas, the concept of embodiment collapses the mind-body duality (1990, 8). Through his methodological postulate, Csordas considers the body as a "*subject* of culture" (1990, 5). Csordas differentiates between body, "a biological, material entity," and embodiment, which is a paradigm constantly defined by perceptive experiences actively produced by our body while engaging in the world (1999, 145). The body is not a static receiver, but a dynamic and active participant in the acquisition and expression of knowledge.

For my study of the live music experience, I draw from performance studies scholar Diana Taylor's theoretical model of performance as an episteme that puts embodiment at the center of analysis. In her book, *The Archive and the Repertoire,* Taylor (2003) supports her theory by analyzing the role of performance in the formation, preservation, manifestation, and transmission of memory and identity. Taylor's analysis begins with the differentiation of two main forms of representation: archive and repertoire. The archive refers to all the information that is captured in tangible and "enduring material" such as texts, maps, recordings, buildings, and bones (2003, 19). In contrast, the repertoire encompasses the intangible and "ephemeral" such as speech, gestures, dance, rituals, among others (Ibid.). Throughout the book, Taylor explains how these two forms of representation have been treated in isolation even though each of them presents equally valuable contributions to the production and transmission of

knowledge. In my research, the archive and the repertoire, as two forms of representation, serve as a perspective for understanding how knowledge is transmitted in a live music performance. In this section, I relate the concept of embodiment to tactile sensory perception and explore how through the body humans can embed and express the effects and affects of musical knowledge and understanding.

Deciphering the effects and affects of music on humans has inspired scholars from different disciplines to seek an understanding of what makes humans sensitive to music and how they perceive and process music (Berger 1999; Leman 2008; Merleau-Ponty 2012). In my approaches to affect, I rely on gender studies scholar Eve K. Sedgwick, whose theory of affect challenges mind-body dualism by focusing on how feeling, learning, and action create affective conditions (2003). Affect, in relation to music, is the precursor of emotion (Becker 2004; McGraw 2016). Affect is created by the music and the listener reacts with an emotion (Berger 1999). Therefore, a piece of music can move its listeners and potentially generate different emotions in them. Additionally, these emotions are also determined by the mood and life experiences of the listener. This individuality is best explored in the role and positionality of the body in the individual's inner life. The body is part of the individual, and through the body the individual manifests emotions. Some of the physical manifestations of emotion, or affective responses, are increased heart rate, facial expressions, tears, altered breathing patterns, changes in skin temperature, chills, thrills, and the appearance of goose bumps. In addition, emotions are responsible for many of the listeners' actions manifested, for instance, through some of the vocal expressions I have explored in this chapter. Furthermore, as I examine in this section, music can also elicit emotions that drive the entire body to move. Some of these movements are conscious and agentive. In this way, every individual who is part of a live music performance is actively

participating in the Energy Transmission Loop generated in the live music experience by sensing the music not just through their ears but through all the other senses in their entire bodies. This section expands the concept of listening as performance by examining another level of the interdependence between the sense of hearing and the sense of touch as experienced through body movements.

Body Movements

Besides the stage, there is no area designated for dancing within Jackson Hall. This characteristic demonstrates that the designers of the Mondavi Center anticipated having audiences who during a performance would limit their body movements to the confines of their seats. The rigidity of the audience chamber in Jackson Hall sets expectations and elicits a specific type of behavior from the audience. Therefore, depending on the music being performed, members of the audience who feel compelled to respond bodily to music channel it by tapping their fingers, their hands, or their feet. Others bob or sway their heads. There are those who "dance" in their seats moving their feet and shoulders. There are also others who stand up and either dance within the confines of the area in front of their seat or less frequently, go to the aisles to move more freely.

Since 2011 I have been a member of the audience at the Mondavi Center. I have been to countless performances and observed people in the audience sit quietly, laugh out loud, shed tears, play with giant balloons, be showered with confetti, and on several occasions, dance. All of these experiences exemplify the audience's different body reactions and involvement with the performing artist. However, during my research year, in the same concert in which the audience used their cell phones to illuminate Jackson Hall, part of a performance elicited a reaction from

the audience that I was not expecting to see there. On February 22, 2020, the Entertainment Council of the Associated Students of the University of California, Davis (ASUCD) brought two bands to Jackson Hall, namely Urbanation and Beach Fossils. Urbanation is a local band organized by UC Davis student Bianca Ocampo, which for this performance was the opening band for Beach Fossils.

Since this was an event hosted by the ASUCD, and not a Mondavi Center event, I was prepared for a different experience. For all performances, I arrive at the Center about 30 minutes before the concert is scheduled to begin. During my research, this time allowed me to survey the audience as they socialized in the lobby before a performance. However, there was hardly anyone in the lobby for this particular show; therefore, I decided to go inside Jackson Hall to find my seat earlier than I usually do. There were approximately 30 people sitting in the orchestra section of the hall.[40] As more people arrived and sat around me, I could hear some members of the audience express concern about the appropriate etiquette. I decided to interview a group of people sitting behind me and they confessed to being confused about whether they should remain seated or stand. One of them exclaimed that she didn't think she could be in a Beach Fossils' concert and stay in her seat, "Maybe I go to the aisle or hopefully people will get up too!" she emphatically remarked.

During Urbanation's performance, the audience took photos and videos, waved their hands, and clapped all while in their seats. People continued to arrive in Jackson Hall throughout Urbanation's set. By the time Beach Fossils came on stage, the orchestra section of Jackson Hall was nearly full. A couple of seconds after they began to play, I had to stand since everyone else was up on their feet, singing and dancing. In between songs, the band joked about the

[40] See a diagram of Jackson Hall in Chapter Three.

"weirdness" of the space[41] generating an inviting atmosphere for everyone to get closer to the stage. For the duration of Beach Fossils' performance, roughly 500 people were crammed at the front of the orchestra section by the edge of the stage. This physical closeness allowed the audience to create moments of raging and even moshing.

In her study of the mosh pit experience in heavy metal concerts, Gabrielle Riches defines moshing as a "ritualized and furious form of dancing which combines physical aggression with collective displays of emotion" (2011, 315). While not as intense and violent as some of my previous personal observations of moshing in heavy metal concerts, the characteristics of the dancing resembled a combination of punk "pogoing" (jumping up and down) and slamdancing (collision amongst individuals). Both punk pogo and slamdance are dance styles from which moshing emerged (Tsitsos 1999, 405). In the Beach Fossils' concert, the dancing and degree of aggression was likely limited by the hard wooden frame of Jackson Hall's seats. As I observed the behavior of the audience, I listened to Beach Fossils' music wondering how it was inducing such reaction in the audience.

"Ok, there is no room to mosh, but if you could, this would be the song to do it to." These were the words Beach Fossils' lead singer, Dustin Payseur, told the audience right before the band proceeded to play their song "Generational Synthetic" from the album *Clash the Truth* released in 2013. The song began with a medium-tempo melody played by the bass accompanied by the drums (this tempo returned in the chorus). During the verses, however, the drums picked up the pace, playing on the snare a punchy "gallop"[42] rhythmic pattern created by an eighth note followed by two sixteenth notes with an embellishment at the end of the bar. In every verse, this

[41] My analysis of the space is in Chapter Three.
[42] Percussionist Christopher Froh reminded me that although the "gallop" is a common rhythm used in heavy metal music, Western classical composers, such as Gioachino Rossini and Dmitri Shostakovich, created forward momentum with the gallop rhythm (personal communication with the author, January 18, 2023).

drum pattern was a high burst of energy that enticed the crowd to mosh. Harris Berger identifies "hooky, aggressive, medium-up tempo sections" as well as "changes in tempo and groove" as responsible for "stir[ing] the audience into a frenzy of moshing" (1999, 64). Although Beach Fossils does not self-identify as a heavy metal band, Berger's description fits some of the passages this indie rock band played that evening. More importantly, I observed and noted that while the music had a significant influence on the behavior of the audience, the fact that the music was being played live and the listeners were surrounded by others who were also having a positive musical experience combined and led to this embodied expression of emotion. Riches states that mosh pits are "integral to the [heavy metal] live show" (2011, 316). Moshing, slam dancing, and punk pogoing, similar to other forms of corporeal movements exhibited in live music experiences, are learned and performed intentionally; they are a shared emotional response that creates a collective identity among those participating.

The collective nature of the live music experience includes the musicians as well, and their whole bodies are also involved in the experience. The more the members of Beach Fossils moved around the stage, the more the audience jumped up and down. When the Energy Transmission Loop is fully activated, musicians' movements fuel the audience's movement and vice-versa.

Regardless of their musical instrument and the style of music, musicians move while playing. Based on the integral relationship between movement and the production of sound, theater and dance scholar Judy Van Zile invites us to consider musicians as dancers and dancers as musicians (1988). Van Zile proposes a model for examining movements in live music events. She structures her model in three sections, each addressing one of three main questions: when, why, and how a movement occurs in relation to the production of musical sound (1988, 133).

While Van Zile's model is centered on the musician's perspective, she does include the audience under the "why" section as benefiting from the musicians' movements (Ibid. 128).

Through movement, musicians build and reinforce their connection with the audience. Following Van Zile's model, in the "playing" category, when musicians are producing a musical sound, the "sound-related" movements are directly responsible for the sound itself, that is the melody, the rhythm, the pitch, and all the other musical characteristics (Ibid., 127). In this category, Van Zile also identifies "concurrent movements" or sound-accompanying gestures, modes of expression that commonly reflect and enhance the mood of the music being played and that can also be part of the music since they affect the quality of the sound (Ibid., 127). Depending on the music's style, throughout a live concert the audience responds to those sound-accompanying gestures often through vocal expressions and/or through bodily reactions such as goosebumps, movements, and applause. This movement-based interaction is characteristic of other performances I have attended, not just Beach Fossils. Pink Martini, whose concert I have previously mentioned in this chapter, also connects with the audience by incorporating corporeal communication in their performances.

Since Pink Martini's concert was in December, their repertoire performed in Jackson Hall included an array of holiday music mainly derived from Christian and Jewish traditions. To conclude their performance, they played the famous samba composed in 1939 by Ary Barroso, "Aquarela do Brasil." Pink Martini's English rendition of the song begins with a slow tempo section that drastically changes into a lively samba rhythm at the end of the first stanza. The tempo influences the movement of the lead singer. During the slow tempo section, China Forbes stands by the right side of the piano slightly moving her head while her hands are steady, one resting on top of the piano near the music shelf guide rail and the other holding the microphone.

Her focus here is an intimate melodic exchange with the pianist who is embellishing the main melody and enhancing the drama of the moment. As the tempo changes, the lead singer moves away from the piano, steps forward, and points to the audience, which up until now had remained seated, directing them to stand up. Forbes flares her arms, and the audience responds by forming a conga line that travels through the aisles of the auditorium.[43]

Through her corporeal articulations, China Forbes communicated with the musicians, carrying the melody and maintaining control of the tempo. The effective communication among Forbes and the musicians allowed her to also communicate with the audience and lead them into action. A conga line parading through the aisles was an indication that Forbes' cues were clear and more importantly that the audience was receptive. This interaction was directly mentioned in the feedback sent by members of the audience. One patron wrote, "Thank you for allowing audience participation with dancing in the aisles . . ." The comments therefore highlight another example of the Energy Transmission Loop in action. Pink Martini and their audience connected, creating a moment that is only attainable in a live performance.

Beach Fossils and Pink Martini are both examples of presentational performances with explicit interactions between the artist and the audience, and the musicians' sound-accompanying gestures were integral to such interaction. The musicians in presentational performances with implicit artist-audience interaction also use sound-related movements to communicate with fellow musicians and with the audience. In the case of a symphony orchestra, the audience may choose to visually focus on the conductor's hands and/or perhaps even the subtle movements of

[43] This description of Pink Martini's performance is based on my notes from their performance in the Mondavi Center on December 17, 2019, and on a video posted on YouTube from an earlier performance (October 10, 2019) that matched closely what I had on my notes. https://www.youtube.com/watch?v=HzrmgCDKrD8 (Accessed October 21, 2021).

the musicians in the orchestra. In ensembles without a conductor, musicians typically watch each other's movements. Fred Lifsitz, second violinist of the Alexander String Quartet, describes that part of his role is to be a "conduit" between the first violinist and the rest of the quartet. Subtle movements by the musicians are also conduits in their own right, facilitating the communication while playing among the members of the Quartet.[44]

For the presentational performances with implicit audience-musician interaction, such as the ASQ, there always tends to be an unspoken agreement about the display of bodily movement from either the musicians or the audience during the performance. A member of the audience who stands up or even coughs while the musicians are playing would be noticeable and disruptive to other people in the audience. The musicians in this musical style expect an audience that makes as little bodily movement as possible; audiences are sometimes told to "unwrap their candies and cough drops" ahead of time because such movements could make noise that can be distracting to others in the audience and/or on stage. On the other hand, when the musician-audience interaction is explicit, a lack of movement can become the distracting factor that may even spoil the experience. Similarly, concertgoers have an expectation regarding the amount of movement they will see displayed by the musicians according to the type of presentational performance. In fact, my awareness about the significance of the communication through movement within a live music performance was raised by the comments provided by some of my interviewees at a Joshua Bell's concert.

American violinist Joshua Bell often plays at the Mondavi Center, and his concerts are well attended and commonly sold out. In addition to the sounds that emanate from Bell playing his violin, there is a prominent visual aspect to his performance. Bell moves his entire body

[44] Fred Lifsitz, interview with the author, June 22, 2020.

while playing the violin. Music critic James M. Keller wrote in a review of one of Bell's concerts in Los Alamos, NM, that "as a player he is physically demonstrative but not egregiously histrionic; he moves with the music – or, perhaps better said, the music seems to move him" (2017). However, not everyone would agree that Bell's movements are not "egregiously histrionic"; some members of the audience find them to be distracting and overly dramatic. On November 2, 2019, at the Mondavi Center, during the intermission of the Joshua Bell and pianist Alessio Bax's concert, an interviewee told me that Bell "moves too much" and that she often had to close her eyes to fully experience the music. On the other hand, a reviewer from the Mondavi Center Administrative Advisory Committee who attended that performance wrote about the high level of satisfaction he and his wife felt with Bell's performance, remarking that "Watching him almost dance at times with his violin really gave us a sense of the range a violinist of his caliber can have in both sound and emotion." These comments emphasize the fact that in a live music experience, individuals perceive, process, assess, and react to sensorial information differently. Moreover, they underline the correlation between the music style and the movements expected from either the audience or the musicians.

In his book, *Musicking Bodies: Gesture and Voice in Hindustani Music*, ethnomusicologist Matthew Rahaim (2012) argues that gesture and voice should be studied in conjunction and understood as a unit which he calls the "musicking body." Rahaim explains that "When the entire body is moved by music, the body submits to a musical field larger than the body, in an attitude of disciplined surrender" (2012, 106). From Rahaim's perspective, there is no distinction between sound-related and sound-accompanying gestures as they both form the musician's musicking body. Although Rahaim's study focuses on Hindustani singing, a practice originally from the northern region of India, and one in which the instrument, the voice, is

already part of the body, I contend that his approach is applicable to musicians in general. Analyses such as the one published by musicologist James Davies (2014) have demonstrated the influence that the practice of music can have on the bodies of musicians, in this case of virtuoso pianists and singers from the 1800s. The bodies of musicians who are serious about their musical skills and who spend countless hours practicing adjust to the presence of the musical instrument which in turn appears to become a natural extension of their body. When Joshua Bell plays the violin, both Bell and his instrument move as a unit; every movement Bell makes affects how the audience perceives the sounds he produces.

Although Van Zile's and Rahaim's perspectives are different in that the first takes a universalist position while the latter is culturally specific, both offer useful insights for the examination of how musicians' movements are part of their interaction with the audience. The movement categorization in Van Zile's model facilitates a pragmatic analysis. While sound-related movements can be standardized, that is, every violin player can technically learn to play the notes and incorporate the phrasing into their playing, concurrent or sound-accompanying gestures are not generally part of violin pedagogy and vary with each individual. Nonetheless, for the audience, the sound-accompanying gestures are evaluated in relation to the sound-related movements. Rahaim's analysis of Indian singers suggests that sound-accompanying gestures are part of standard technique, and audiences evaluate Indian singers' non-sound-producing gestures in a more uniform manner than audiences at Western classical concerts.

The audience at Joshua Bell's concert sat mostly still and quiet, unlike the attendees at the Pink Martini and Beach Fossils concerts. Everyone at Bell's performance followed the conventional etiquette for such a concert. Most of Bell's audience had the benefit of knowing before coming to the Mondavi Center what to expect regarding others' behavior and the

suitability of the space for the type of music the artist performs. For the Pink Martini audience, permission to stand up, dance, and parade around the auditorium was an added and welcomed benefit that surpassed their expectations. In contrast, the Beach Fossils audience took a chance when purchasing their tickets because they had unclear expectations about how such a concert would go in Jackson Hall. However, Beach Fossils' acknowledgement, acceptance, and adaptation to the circumstances and their candidness in communicating with the audience assisted them in surpassing the venue's limitations and creating, as much as possible, the experience that their audience anticipated. According to the feedback from members of the audiences, each performance provided a positive experience. The embodiment of the audiences' responses—one who moshed, sang, and danced, and the other which sat immobilized—demonstrates that these performers successfully interacted with their audiences. Had the audiences displayed the opposite movement—had Bell's audience danced along with him or had Beach Fossils' audience sat immobilized—the musicians, Bell as well as Beach Fossils, would have been surprised, and it likely would have disrupted their playing. In these live music experiences, audience and musician(s) created effective Energy Transmission Loops that connected them throughout their respective performances.

Applauding Hands: An Exploration of the Interrelation of the Senses

A mixture of public speaking, live music, and music films was the program for "An Evening with Izthak Perlman," presented in Jackson Hall on January 11, 2020. Born in Israel in 1945, Perlman moved to the United States in 1958 to continue his violin studies at the Juilliard School.[45] His mastery of the violin has earned him international recognition, prestigious awards,

[45] https://itzhakperlman.com/biography/ (Accessed December 8, 2022).

and requests to perform as a soloist in movie soundtracks. On that evening in January 2020, Perlman captivated the audience with music and some of his life stories, illustrated with pre-recorded videos. At the end of a video that portrayed a young Perlman playing his violin, to my surprise, the audience in Jackson Hall, including myself, erupted into applause. Although there has been applause at every live performance I have attended, the applause in this particular occasion intrigued me. What exactly drove the audience to applaud after this video? Were we celebrating the virtuosity of the young Perlman? Furthermore, had Perlman not been present on the Jackson Hall stage, would we have applauded at the end of that video-recorded performance?

In all the 50 concerts I attended during my fieldwork, the sound of applause generated by the audience at the end of a performance was a consistent feature. In fact, beyond my research season, I cannot recall ever being in a live music performance at the Mondavi Center or any other performing arts center in which applause was absent. During my fieldwork, however, I noticed that musical styles have their own conventions on applause. Throughout my research, as a multisensory participant, applauding a great performance brought me joy and satisfaction; it was a way of making myself "heard," because through my applause, I was telling the musicians that I heard them and felt their music, and that I admired and appreciated their art. In this section, I illustrate the dynamic interrelation of the senses through the act of applause. Although clapping is a tactile action, it is also a compelling visual and auditory cue. Applause is contagious visually, aurally, and tactilely. Seeing and hearing others applaud validates and influences individuals most likely to continue or join in with their own applause. But even when others cannot be seen applauding, the sound of the applause triggers a reaction. Thus, the emphasis of my discussion is on the effect that the tactile action of applause has on the sense of hearing. In addition, through my discussion I build the case that applause is an agentive, active, and

collective participatory behavior. I thus challenge the notion that the role of the audience, especially in the Western classical music traditions, is "servile" (Fisher 2003, 66) or that of mere spectators whose "only power is that of consumers in general, to buy or not to buy" as Christopher Small describes it in *Musicking* (1998, 44).

Applause matters. In the Bible, clapping is mentioned in passages such as Psalm 47:1 and 2 Kings 11:12, in which the action acclaims and celebrates the Hebrew God. However, in Islam, applauding during religious commemorations has been "deemed inappropriate" (Erdemir 2005, 947). The Greeks and the Romans conventionally showed approval of public performances (games, music, theater, or political speeches) with gestures such as hand clapping, finger snapping, and waving an *orarium* (handkerchief) (O'Connell and Kowal 2008, 177; Smith 1849, 843). In fact, for ancient Romans, applause served as a measure of the popularity of a politician; because its magnitude can be seen and heard, applause "was big data before data got big" (Garber 2013). Most of the literature on applause is associated with or conducted in relation to public speeches, especially those given by politicians (see Aldrete 1999; Bull 2006; Chen 1998; Heritage and Greatbatch 1986; and Koppensteiner, Stephan, and Jäschke 2015). A common thread in these studies is the examination of applause as an audience reaction that is politically charged, as well as data that indicates the approval and support for politicians and their agendas. The association of applause and the degree of popularity of the orator in Roman times was such that it induced politicians to instigate clapping among the crowds (Aldrete 1999, 135-136).

In Paris, during the eighteenth century, the practice of training people to provoke and lead applause became institutionalized as the *claque* (Fr. *claquer,* to clap the hands). The claque was a group of operagoers who were paid to "provide degrees of applause in accordance with a tariff" at a performance (Rosselli 2002, "Claque"). This meant that the higher the payment the louder

and longer the applause would be. *Claqueurs* were also hired in opera houses in Italy, Austria, and the United States until the early twentieth century (Ibid.). More recently, international correspondent Ellen Barry published, in 2013, an article in the *New York Times* on the work of Roman Abramov and his team, a group of professional claqueurs at the Bolshoi Theater in Moscow, Russia. Barry describes Abramov's claqueurs as ballet fanatics whose job is "to engineer applause and ovations, on the basis of secret agreements with dancers, using associates planted in the audience" (Barry 2013). Beyond fomenting and fostering excitement among the audience, the claqueurs alert and guide the audience in recognizing moments that could go unperceived, especially for an amateur or foreign audience. Furthermore, Barry writes that "Experienced performers are seeking something very specific from the applause, Mr. Abramov said, like extra seconds to catch his or her breath between the end of an adagio and the beginning of a variation" (Barry 2013). In a sense, claqueurs are audience educators, mediators whose actions arguably enhance the experience for both audience and performers.

The fact that organized applause-for-hire has and potentially continues to exist demonstrates the relevance and significance of well-timed applause. The notion that Western audiences are nothing more than passive consumers is very recent; it began only in the nineteenth century when the audience of Western classical music had to adhere to limitations usually imposed by the theaters and in some cases by composers. According to O'Connell and Kowal, Richard Wagner prohibited applause during opera performances at the first Bayreuth Festival in 1876 (2008, 177). Since then, a series of (usually) tacit behavioral rules, especially concerning applause, have been followed by audiences in Western theaters that continue to shape the live music experience. These rules, however, do not mean that the audience has completely relinquished its power. Arguably, the performer's expectations that the audience is following

these rules have made the performer vulnerable, since a member of the audience can easily decide to break the silence with applause and cause havoc. Such is the case reported by Ellen Barry of a claqueur who sabotaged a performance by clapping purposely at the wrong time causing a ballet dancer to fall (Barry 2013). In essence, the unspoken behavioral rules that most listeners follow during a live performance inside a concert hall should not be seen as a surrendering of power, but as guidelines that help the audience shape, along with the performer, the live music experience. This potential to support or undermine a performance makes well-timed applause an intricate contributor in the Energy Transmission Loop.

Applause can be an emotional outlet, a tactile form of expression that involves repeatedly striking the palms of one's hands to generate the sound also known as clapping. While there are similarities among claps, everybody produces their own sound through their own clapping style or method (hollow-handed, flat-handed, fingers to palm, to name a few). In a live music performance, the sound perceived as applause is not usually heard as individual claps, because each individual's clapping sound merges with the sound generated by the others to create a composite sound that has the potential to energize the individuals who produce it as well as those who receive it. Applause is contagious and collective because once it is initiated, others join (the characteristic on which the success of claqueurs is rooted). The collective nature of applause partially explains why I felt compelled to clap at the end of Perlman's video, even though I would have never done so had I been watching it at home by myself. However, in that moment, even if Perlman hadn't been there, I did agree with those around me and so I clapped along with them. That said, I joined my fellow audience members because Perlman was there, in Jackson Hall, sharing a moment "with us"; had I been by myself with Perlman watching the video, I would have most likely expressed verbally my admiration.

As a collective expression, applause has the tendency to become naturally synchronized, not necessarily in unison but, as Roger Gilbert describes it, "a counterpoint so dense the separate lines can't be made out" (2001, 28). Although I did not intend to conduct empirical research on applause, during my fieldwork, I noticed different tone qualities of applause. I have come to believe that audiences, consciously or unconsciously, strive to create one kind of overall sound. The success of the harmonic and rhythmic organization of the individually produced sounds into a massive sonic succession of applause is an indicator of the general satisfaction of the audience with the performance. Also, the duration of the applause and the faster the (near) synchronization was achieved, the higher the praise and the longer the applause would last. In addition, very often members of the audience felt so satisfied with the experience that they would choose to clap while standing, possibly hoping for an encore.

Conventionally, a standing ovation is meant to be an exceptional response to an exceptional performance.[46] At the Mondavi Center, and perhaps at other venues in California or the United States, however, a standing ovation has become typical. With a standing ovation, the audience reinforces their applause while increasing their visual contact with the artist. Standing ovations were a common occurrence during my fieldwork. Although not everyone stood up at the end of every performance, there was always a group of people who did so, and their action inspired others to stand as well. In my case, there were a few performances for which I did not immediately stand up; however, I very often stood when the applause had lingered in support of those who were standing. I suppose that in those occasions I was influenced by the collective action of my fellow audience members. I responded to a form of peer pressure. Nonetheless, my

[46] Not everyone who stands at the end of a performance is doing so to praise the artist. Some people stand to prepare for their departure. This form of standing is what Roger Gilbert calls, "the phantom standing ovation" (Gilbert 2001, 17).

actions and reactions are a representation of the energy felt and shared as part of the live music experience. Conversely, not standing up and not clapping sends a clear message of disapproval to performers and of disagreement to others who are clapping and/or standing.

As in most performance settings,[47] within the context of the Mondavi Center, applause is a conventional response to the live music experience. However, every performance has its own tacit guidelines concerning applause. For example, for an orchestra performing one of Gustav Mahler's symphonies, which may have four to six movements, each with a clear ending and pause between them, the audience generally knows to expresses their appreciation for the music and performers by sitting as quietly as possible, holding their applause until the end of the symphony. In contrast, the audience in a Kendrick Scott Oracle's jazz concert praises the end of every solo with applause. While I was tempted at first to categorize these unspoken rules based on the music style, I realized that other factors, such as the artist's interpretation of the music and the overall level of receptivity of the audience influence the quantity and the quality of the applause generated by the audience. The Norwegian jazz ensemble, Tord Gustavsen Trio, was representative of this observation.

"Cerebral" was the adjective that Gary Vercelli, Jazz Music Director at Capital Public Radio (a National Public Radio station), used in his introduction of the Tord Gustavsen Trio on Thursday January 23, 2020, in the Vanderhoef Studio Theater. That evening was their second of four consecutive nights of performances that the Trio played as part of the Mondavi Center's "Studio Jazz Series." The format of the Trio's performance is a contributing factor to the mystifying and "cerebral" nature of their music. The Trio creates sets by playing three or more compositions, one after the other, linked by an improvised transition. During an interview with

[47] There are also live music performances in which applause is not necessarily expressed, such as in religious ceremonies and rituals.

pianist Tord Gustavsen, he explained that the Trio's approach to the programming for a concert is very spontaneous as they aim to create "new totalities." The urge for improvisation and freedom, "making the music here and now," is a determining factor that leads from one piece to the next, played without interruptions as a set. When the audience applauds at the end of a set, they are acknowledging the performance of two or three uninterrupted compositions. Gustavsen expressed that the intention is to take the audience on a journey, and that during the Trio's concerts the audience may only have the chance to applaud two or three times. For Gustavsen, applause can become "predictable and boring, machine like…" when it happens all the time.[48]

Noting the significant reduction in the amount of applause after each of the Tord Gustavsen Trio's concerts, I asked members of the audience whether they missed having more opportunities to clap. One person said she didn't notice, and the other three firmly replied with a "no." All of my interviewees had previously attended jazz performances and one person in particular told me that he attends several jazz performances a year which means that he is familiar with the typical amount of applause generated during a jazz concert. Like my interviewees, I did not "miss" clapping more often. Although I noticed some short flare ups of applause after some instances that could be identified as solos in every performance, the Tord Gustavsen Trio successfully connected with their audience and took them on an adventurous musical journey. The Trio did not provide any directions or explanations on their approach; their music basically led the way as the musicians performed it while the audience's attentive and receptive listening behavior allowed for the experience to develop.

Applause in a jazz performance is usually abundant. The jazz audience cheers the musicians with applause after solos as well as between pieces. The experience of listening to the

[48] Tord Gustavsen, interview with the author, January 22, 2020.

Tord Gustavsen Trio live highlighted two important characteristics about the role of applause in the live music experience. First, it reminded me to avoid generalizations about applause, as it varies with each performance regardless of the musical style. Second, it encouraged me to analyze applause as part of the audience-performer interaction, shifting my preconception from applause as the audience's expression of power to the audience's active participation in a live performance. By acknowledging applause, the artist reinforces the connection with the audience during the performance. In turn, by clapping, the audience is providing encouragement to the musicians, especially if the clapping occurs in the "right" musical places. Berliner cites John Coltrane who expressed that having a good audience is "like having another member in the group" (1994, 470). In other words, the audience is a collaborator in the live music experience; the audience is also performing.

Closing Thoughts

The live music experience is multisensorial; it engages the entire body. Ethnomusicologist Juan Diego Díaz explains that "Embodiment is inherent to the act of listening to music…. Our responses to music are shaped as much by the body's sensorimotor system and its physical environment as by the mind and sociocultural aspects that contribute to its development" (2016, 93). In the human body, the senses work as a continuum, and everyone interprets and embodies the information collected by the senses individually. Such interpretations and embodiment are directly related to an individual's ability to pay attention, a key ability that I explore in the following chapter.

In this chapter, I have examined some of the ways in which the senses are engaged during the live music experience in a performing arts center such as the Mondavi Center. Before

beginning my analysis of the senses in the live music experience, I acknowledged that sensory awareness and engagement is determined by personal and socio-cultural practices. The journey began with the senses of smell and taste, and observations that the environment of the Mondavi Center minimizes the engagement of these two senses. Patrons come to the Center expecting an odor-neutral environment that is conducive for them to only engage with the performance. The consumption of food and drinks, in most concerts, continues to be dictated by Western concert hall conventions that prohibit eating and drinking to direct attention to the performances.[49] Inversely, attention is directed to the stimulation of the senses of sight and hearing. For the analysis of these two senses, I first focused on the role of light and identified three functions light fulfilled in live music performances at the Mondavi Center. Then, for the auditory sense, I explore the acoustic cues vocal expressions convey in a live performance as well as how listening practices are a form of active participation. For the examination of the sense of touch, I related the concept of embodiment to tactile sensory perception and analyzed the significance that is communicated through the body movements of artists and members of the audience. At the end of the chapter, I explored the interrelation of the senses through the study of applause as a tactile action that is also an effective visual and auditory cue.

Although I acknowledge that the senses are dynamically interrelated, I have presented my analysis of each sense separately to highlight the significance of each sense in the development and maintenance of the Energy Transmission Loop. Each sense contributes to the experience, even if individuals are unaware of each sense's contribution. Patrons of the Mondavi Center have come to expect, recognize, and associate such specialized musical venues as having minimal and controlled odors; possible encounters with libations; specific types of audio and visual

[49] According to Don Roth, executive director of the Mondavi Center, the practice of prohibiting eating and drinking in concert halls is changing and becoming more flexible (personal communication with the author, January 6, 2023).

stimulations; and opportunities to express themselves through bodily movements. I argue that such a performance is collective in nature since everybody involved, audience and musicians alike, are performing, using all of their senses. The next two chapters examine the concepts of immersion and intimacy; these two concepts serve to expand how the engagement of the senses influence the Energy Transmission Loop and thus the experience of live music.

CHAPTER TWO: MUSICAL IMMERSION

During a live music experience, the performers and the audience share a space within a specific time frame. Music and time, like music and space, have a complex relationship. As I analyzed my fieldwork notes, I realized that these relationships can be examined through the concepts of immersion and intimacy since they are both directly related to humans' perception of time and space. Thus, I develop my examination of how the perception of time and space influence the audience-artist interaction and the Energy Transmission Loop during the live music experience; I contend that immersion is associated with the perception of time, and intimacy is greatly influenced by the space. While I explore the influence of the space and its association with intimacy in Chapter Three, in this chapter, I discuss how the perception of time relates to the concept of attention in the production of an immersive state during a live music performance from both the perspective of the performers as well as the audience.

I define immersion as a state that an individual achieves through a process that begins with directing their attention toward a specific activity or event. In paying attention, the activity or event becomes the dominating thought in that individual's mind; all focus and intention are invested into experiencing the activity/event. This understanding of immersion closely aligns with the description English literature scholar Janet H. Murray provides in her book, *Hamlet on the Holodeck.* Murray writes, "Immersion is a metaphorical term derived from the physical experience of being submerged in water. We seek the same feeling from a psychologically immersive experience that we do from a plunge in the ocean or swimming pool: the sensation of being surrounded by a completely other reality, as different as water is from air, that takes over all of our attention, our whole perceptual apparatus" (Murray 1997, 98). Throughout the chapter, I examine immersion in relation to theories of time and attention aiming to elucidate the process

of achieving immersion while experiencing music, "musical immersion." I begin by surveying some of the connections between music and time and then delve into the concept of attention as responsible for the awareness (or lack thereof) of the passage of time during the live music experience. Lastly, I propose that attention, which I use as a framework for understanding musical immersion, is a prerequisite for the development of the process of engagement and musical entrainment.

A Matter of Time

In one of the essays in his famous collection, *Style and Idea,* composer Arnold Schoenberg explains that "In a manifold sense, music uses time. It uses my time, it uses your time, it uses its own time" ([1950] 2014, 54). With this statement, Schoenberg is philosophically highlighting that while experiencing music, there is an incongruence between the perception and passage of time beyond what is understood as "clock time" (typically measured in seconds, minutes, or hours). Music's own time or "musical time" is based on the temporal and structural qualities set by rhythm. The term *rhythm* in musical discourse typically refers to the organization of sounds and silences in relation to chronometric or clock time. Rhythm can be metrical or non-metrical; the organization of metric music involves an underlying pulse, which usually maintains a tempo that is measured in beats per minute. On the other hand, non-metric or free rhythm music lacks a discernable pulse as it develops. Whether metrical or non-metrical, when experiencing music, clock time and musical time are simultaneously interacting.

One of the most important variables of musical expression is timing. Musical time is not always metrically strict. Playing "in time" and being "in time" are both part of the music making process. The difference between playing and being in time is often subtle. Scholars such as

philosopher Tiger Roholt have examined such rhythmic nuances through the concept of groove. For Roholt, groove is "the *feel* of a rhythm" (2014, 1). With his definition, Roholt is alluding to the interdependence of the senses. He argues that a groove is not necessarily grasped through the sense of hearing but through our "active, bodily engagement with a rhythm—foot-tapping to the pulse, head-bobbing, swaying, finger-snapping, and so on" (Ibid., 135). As I have indicated in Chapter One, these are body movements that in the live music experience become part of the Energy Transmission Loop.

In his studies of rhythm, embodiment, and music making, sociomusicologist Charles Keil argues that music is a process in which rhythm is not an objective ideal. According to Keil, what is significant in music performance is the spontaneity in the process which he calls "engendered feelings" or grooves with the music (1966, 338). Based on this premise, Keil formulated his theory of Participatory Discrepancies (PDs), a theory that refers to the discrepancies between metric rhythm (formed by exact subdivisions of time) and the rhythmic nuances that challenge such a rhythm during music making. Similar discrepancies also occur in terms of pitch. PDs exist, Keil explains, "In the moment when each of us chooses to snap fingers, or nod a head, or in the instant when many decide to get up and dance because the music is so contagious" (1995, 2). Those moments responsible for PDs are moments that subtly attenuate the musical structure and become "out of time" and/or "out of tune" but in which being "in time" and/or "in tune" with the music transform those experiencing it into being one with or becoming the music. The "participatory" aspect of the theory originates from Keil's belief that music connects us socially through mutual experiences of these moments of micro deviations of time and pitch (1987, 275). Like Roholt's approach to groove, Keil's PDs incite movement as an invitation for both

musicians and audience to participate. These moments of PDs highlight what I consider to be a playful relationship between the experience of music and the perception of time.

The relationship between music and time extends beyond the expression of motion through rhythmic formations; the cultural understanding of the concept of time is also represented in music. Musical expressions in the court cultures throughout Southeast Asia, for example, use extended rhythmic cycles to resonate with the cyclical recurrence of life events among communities; there is always someone being born, getting married, and/or dying. For Hindu and Buddhist traditions, long-term cyclical timelines in music, usually created by overlapping ostinato patterns, evoke the cosmic order represented in the concentric circles of a *mandala* (Spiller 2004, 24-26). On the other hand, in Western cultures, the focus is often on the linear trajectory of experiences lived by an individual. At its most basic, linear time is understood to go from past, to present, and then future.

In interpreting relationships between time and music performance, philosopher Alfred Schütz distinguishes between inner and outer dimensions of time. Inner time is based on the sequence of tones in the music, as interpreted by musicians and experienced by everybody present, and includes "the flux of the musical events and the activities by which they are communicated," while outer time is elapsed clock time (1951, 88-94). Schütz's standpoint is comparable to John Blacking's differentiation between "actual" and "virtual" time. For Blacking, the measured time in which daily life occurs, "actual time," is different from the "virtual time" created during a musical experience (1973, 27). By virtual time, Blacking is referring to an alternative sense of time that runs parallel to actual time but is perceived differently. I use the term "perceived time," rather than Blacking's "virtual time," to refer to this concept, to avoid

more recent connotations of the adjective "virtual," which is now linked with virtual reality technologies.

Whether actual or perceived, time is continuous and irreversible. These characteristics make time valuable, as once it has passed, it is gone. In *Noise: The Political Economy of Music,* economist Jacques Attali ([1977] 1985) emphasizes the value of time. He explains that time is the only thing that is scarce; it cannot be replaced, once expended it is gone forever (Attali [1977] 1985). This scarcity of time is partly rooted in the fact that for humans, time is a finite experience, whereas time in and of itself is interminable. Due to the ephemeral quality of time, Attali argues that people will invest their money in experiences that enrich their lives such experiencing live music, sociomusicologist Simon Frith affirms that "the value of music (the reasons why people are prepared to pay money for it) remains centred in its live experience" (2007, 4). These materialistic views of time may only apply to cultures that view time as linear.

Music is a stimulus that can alter humans' perception of time. Composer and music theorist, Jonathan D. Kramer, in his book, *The Time of Music*, maintains that "If we believe in the time that exists uniquely in music, then we begin to glimpse *the power of music to create, alter, distort, or even destroy time itself, not simply our experience of it*" (1988, 5). But what does music do to allow humans to perceive or experience time differently? A similar line of inquiry led psychologists Droit-Volet et al. to examine the idea that time "flies" when listening to music. In their study, the participants were undergraduate students at Clermont University in France, and they listened through headsets to different recorded sound stimuli including melodic excerpts in major and minor modes and non-melodic sine wave sounds. The data revealed that "the duration of a melody is judged shorter than that of a non-melodic stimulus" (Droit-Volet et al. 2010, 230). Droit-Volet et al. considered attention-based theories on the perception of time

which claim that when a stimulus averts attention from the passage of time, the actual duration of the time lapsed is judged as shorter. Therefore, the researchers concluded that music, as a stimulus, "distracts our attention away from the processing of time" (Ibid., 231). The conclusion of this study invokes the concept of attention which, as I will elaborate in the next section, is what I consider to be the connecting link between the perception of time and achieving musical immersion. I argue that attention helps determine an individual's level of awareness of the passage of clock time when experiencing music. I propose that there are two levels of awareness in the process of achieving a state of musical immersion, namely (1) a level of engagement and (2) a level of musical entrainment. Thus, the answer to the aforementioned question regarding how the experience of music alters the perception of time, may be elucidated through an understanding of the concept of attention as an essential component of musical immersion.

A Matter of Attention

In *Deep Listeners: Music, Emotion, and Trancing*, ethnomusicologist Judith Becker (2004) examines the concept of attention through a multidisciplinary approach to the study of music and its embodiment. Using as examples some of her previous ethnographic studies, conducted in Sri Lanka, India, Indonesia, and a Pentecostal church in the United States, Becker analyses listeners' experiences from scientific and philosophical perspectives. In her book, Becker tackles some of the dichotomies that have prevailed in the study of music and the musical experience, such as mind versus body and secular versus sacred. She breaks through these dichotomies by evaluating the process of trancing as the extreme case in a range of behaviors resulting from the intense focus and immersion often stimulated by a musical experience (Becker 2004, 1).

Other researchers, such as psychiatrist and anthropologist Richard J. Castillo, have studied the connection between attention and trance. Castillo argues that trance "result[s] from the behavior of intense focusing attention, which is the key psychological mechanism of trance induction" (1995, 17). In essence, in the studies conducted by these scholars, trance represents, and is also the result of, a deep state of attention, yet there are other states of attention.[50] Becker uses the term "deep listeners" to describe "persons who are profoundly moved, perhaps even to tears, by simply listening to a piece of music" (2004, 2). Becker remarks that the experience of a deep listener is characterized by levels of emotional intensity almost as high as those reached in trancing, and that neurologically they are similar. Thus, a deep listener does not necessarily go into trance, but a person who goes into trance is a deep listener. Becker argues that both of these experiences are embodied expressions rooted in the context of culture and are socially framed and reinforced. This explains why during a musical event some people experience strong emotional responses, even to the point of trancing, and others are not affected. While trancing and deep listening are individually experienced, they develop at a supra-individual level (Ibid., 129). According to my interviews with members of the audience in the Mondavi Center, no one reported ever going into trance, although it is possible people may have experienced trance-like states. Nonetheless, Becker's research offers a useful perspective in my examination of the artist-audience interaction that occurs in the live music experience and her term "deep listener" is applicable as many have experienced, at one time or another, a memorable or immersive experience.

[50] There are also other theories about trance in which the state of attention is considered irrelevant. In such theories, trance is an inevitable process triggered by the sounds themselves and the entity that possesses people (see, for example, Díaz 2016).

An immersive state, as Murray indicates in her description, ". . . takes over all of our attention, our whole perceptual apparatus" (1997, 98). Such a state is analogous to what psychologist Mihaly Csikszentmihalyi calls the state of "flow," which he describes as a "process of total involvement with life" ([1990] 2008, vii). This total involvement, or what I refer to as immersion, is dependent on the level of attention invested while doing any activity. In a live music performance, paying attention is an action that both artists and members of the audience do, albeit at different levels and with different foci. Thus, in this chapter, unless specifically stated, I will refer to both audience members and musicians as listeners. According to Csikszentmihalyi, attention is "like energy in that without it no work can be done, and in doing work it is dissipated" (Ibid., 33). He calls "psychic energy" the energy created, used, and spread through the process of attention (Ibid., 6). Describing attention as a form of energy is also an approach taken by psychologist Mari Riess Jones. In explaining her Dynamic Attending Theory (DAT), Jones uses the term "attending energy" to reference the energy a person spends on attending to an external stimulus (2019). In DAT, attending is an interactive activity that synchronizes two sources of rhythms, namely internal (biological/cortical) and external (the event's time structure) rhythms, in relation to an individual (Ibid., 1). The amount of attending energy an individual invests influences the level of immersion that individual achieves. The energy that is part of the process of attention, I propose, becomes part of the Energy Transmission Loop formed and completed in the live music experience.

In explaining how a state of flow relates to experiencing music, Csikszentmihalyi emphasizes what he considers the difference between hearing and listening ([1990] 2008, 109). He explains that in the experience of music, "one must pay attention to it [music]" (Ibid.), and attention in music is achieved through listening. Hearing can be considered to take place when

there is music playing, live or mediated; however, simultaneously an individual is distracted and not devoting full attention to the music. In contrast, listening entails focusing not only with the ears but with the entire body by allowing it to react to the music. For philosopher Jean-Luc Nancy hearing is different from listening in that the former is a "simple nature" state, and the latter is a "tense, attentive, or anxious" state (2007, 5). Nancy explains that these two states are part of every sensory register: "seeing and looking, smelling and sniffing or scenting, tasting and savoring, touching and feeling or palpating, hearing and listening" (Ibid.). The state of tension and attention is evoked by the search for meaning that listening entails, and in that search, it engages the other senses. Likewise, Csikszentmihalyi acknowledges the engagement of all the senses as part of the music listening experience stating that "Listening to music usually starts as a *sensory* experience" (Ibid., 110). In short, while listening is a fully sensorial and embodied intentional (searching for meaning) experience, hearing is partial and automatic or even accidental.

Distractions are the enemy of attention, and there are a wide variety of them. Some distractions are internal and exclusive to the individual while others are external and capable of disrupting the attention of many individuals. Internal distractions emerge from within an individual and may manifest through thoughts, emotions, pain, discomfort, and/or physiological needs. The range of external distractions, which originate outside of the individual's body, is wide because there are an infinite number of possible factors that would trigger a loss of attention. The sound of a person unwrapping food; people kissing; a person crossing their legs; a baby crying; an animal sound; a person wearing a headdress; an unexpected smell, are only a few examples of external distractions that I identified during my fieldwork at the Mondavi Center. Cell phones are a popular cause of external distraction that may affect and even disrupt a

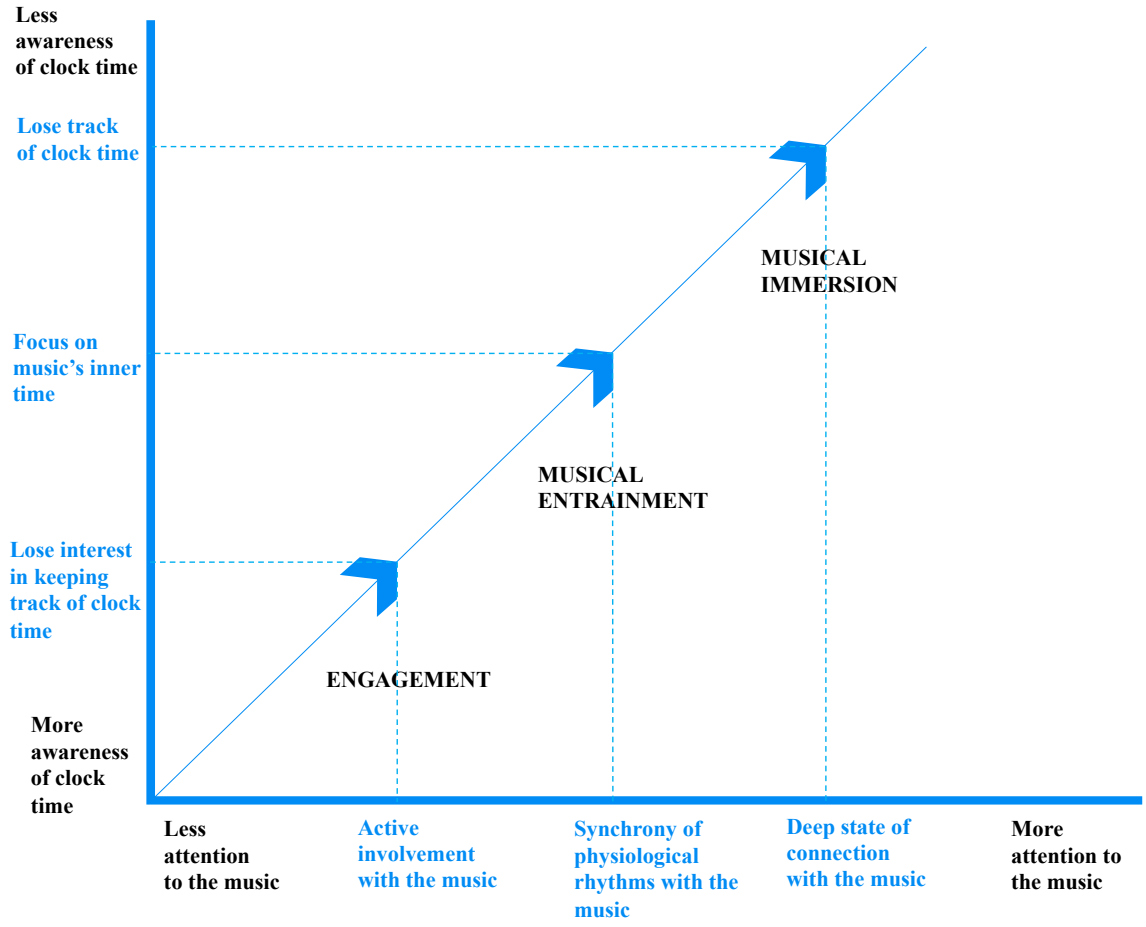
performance. I was very intrigued by how people in the audience use their cell phones during performances at the Mondavi Center. In addition to silencing and dimming the screen of the cell phone, some people are very cautious and avoid distracting others by checking it under a purse, a jacket, or even the legs. However, there were performances in which people felt free to take pictures and videos with their cell phones even though such actions are discouraged by the Center's administration and/or the artists. Singer Bonnie Raitt expressed her discontent at seeing the audience using cell phones during the performance. In an interview conducted by journalist Steve Knopper, Raitt admitted that seeing the audience's cell phones while she is playing makes it difficult for her to connect emotionally with people because the cell phones are a distraction in what she characterizes as "a sacred space between me [her] and the audience" (Knopper 2018). Other artists, such as Beach Fossils, however, incorporate the use of cell phones into their concerts, an action I examined in Chapter One. A distraction for one individual may go unnoticed by others. However, when noticed, distractions interfere with the listening experience, disrupting the flow of energy and therefore impeding the process of musical immersion.

Processes of Attention

In a live music performance, artists and audience communicate. This communication is part of their constant interaction, and it creates what I have called the Energy Transmission Loop. There are three processes that originate from such interaction and contribute to the sustainability of that Loop, namely engagement, musical entrainment, and musical immersion (see Figure 2.1). While I contend that these three processes are directly related to the level of attention invested into the music experience and to the perception of clock time, they may not necessarily develop as neatly as shown on Figure 2.1. An individual, whether a member of the

audience or a performer, may come in and out of these states throughout the course of a performance—or may not experience any of them. However, based on my observations of my own process of attention, I argue that an individual must be engaged at some point prior to being immersed during the experience of music.

Figure 2.1 Processes of Attention



Being engaged in an activity means that attention is invested in it. As presented in the previous section, attention is a process, "a real-time activity directed outward [from an individual] to interact with an unfolding event" (Jones 2019, 58). An individual engaging with an event is a representation of attention. In describing student engagement in higher education, pedagogy scholar Vicki Trowler affirms that "Acting without feeling engaged is just

involvement or even compliance; feeling engaged without acting is dissociation" (2010, 8). Thus, an individual may be involved in an activity but not necessarily engaged with it. Involvement implies association and engagement represents active involvement. Trowler's statement is applicable to other scenarios such as the experience of music. In experiencing music, however, there is another level of attention, musical entrainment, which goes beyond engagement and, I argue, leads to musical immersion.

As I have elaborated in Chapter One, listening to music is a process in which all senses are stimulated; it is an embodied experience. According to Becker's study, listeners manifest the emotions elicited by their musical immersion individually through their bodies. Some of these physiological manifestations are increased heart rate, facial expressions, tears, altered breathing patterns, changes in skin temperature, and the appearance of goose bumps. Another physical manifestation of musical immersion in some listeners occurs when the body entrains to the music. Entrainment is a process in which two or more rhythms interact and fall into a state of synchronization or "'lock in' to a common phase and/or periodicity" (Clayton, Sager, and Will 2005, 4-5). This definition of entrainment overlaps with Mari Riess Jones' conceptualization of attention on which she based her dynamic attending theory, and it is not necessarily equivalent to the process of trance in relation to music.

Following the pattern in Figure 2.1, the process of trance would be deeper, somewhere beyond musical immersion. Becker illustrates the differentiation between musical entrainment and trance through her studies of a dance-drama that includes the encounter between Rangda and the Barong, two characters in the mythology of Bali, Indonesia. In this encounter, entranced men (the Barong's army) stab themselves due to Rangda's witchcraft. Played by the gamelan, the music cycles that accompany this encounter sustain pulsing rhythmic ostinatos indicative of the

fear and rage that drive the frenzied battle (Becker 1994, 48). Becker clarifies that "the music does not cause the self-stabbing" in the entranced men and remarks that "Members of the audience are hearing the music, but *seldom* go into trance" [my emphasis] (Ibid., 49). She argues that while not a necessary condition, the driving rhythm of the music may facilitate the trancing of the men in the encounter (Ibid.). Depending on the sociocultural beliefs associated with the event, the process of going into trance requires a higher level of attention than the process of musical entrainment.

The term musical entrainment is used when music provides the external rhythm that interacts with the individual's internal rhythms. The human body has its own rhythms which are cyclical, such as those created by the beating heart, breathing, and walking. In general, individuals who entrain to music are attending to it. Depending on the level and intensity of the attention the individual is investing in the music, entrainment will occur, which in turn may lead to deep listening for some. Musicologist Jonathan D. Kramer affirms that "Deep listening allows us to transcend the time the piece takes and enter the time it evokes" (1988, 7). As elaborated earlier in the chapter, the level of attention paid to the music affects the listener's perception of time.

Rhythm in music and physiological rhythm(s) in the human body are two rhythmic systems that tend to entrain during the experience of music. While musical entrainment is not limited to the live music experience, in a study comparing a live performance with an album-playback concert[51] of the same artist, Swarbrick et al. found greater entrainment among fans during the live performance. This entrainment was evidenced by the study participants' head movements in synchrony with the music (Swarbrick et al. 2019, 7). In my observations of the

[51] The only visual component in the album-playback concert was the display of a photo of the *Secrets* album artwork in the wall of the stage.

audience at Mondavi Center performances, I often witnessed synchrony between the music and an individual's movement of a body part such as head bobbing and finger or foot tapping. Usually, I noticed that more than one individual was entrained. Although none of my interviewees mentioned the word entrainment, "sharing the experience with others," "experiencing the presence of the artist," and "connecting with the artists" were common answers to the question of what about the live music experience was important to them. Entrainment with others is a form of social coordination and connection. In a live concert, the music facilitates connection among those present, including the artists, and this connection is central to the experience. What follows is my examination of this connection through an analysis of musical immersion.

Levels of Musical Immersion

Ethnomusicologist Martin Clayton identifies three levels at which to analyze musical entrainment, namely *intra-individual* (within an individual); *intra-group* (among members in a group); and *inter-group* (between groups) (2013, 30). Although Clayton's study focuses on the musical entrainment process from the perspective of musicians, my observations of audience's reactions, including my own, motivated me to think of the parallels between musical entrainment and musical immersion and to adapt his approach to my examination of both audience and musicians during the live music experience. Like Clayton, I distinguish three levels of analysis. In my first level of musical immersion, I focus on the individual. In the second, I examine the extent to which an individual's immersion (or lack thereof) can potentially influence or alter the level of immersion of other individuals in a group. My analysis of these two levels separates individuals and groups of performers from individuals and groups in the audience. However,

audience and performers become what I identify as an *intra-immersed* group in the final level. While inspired by Clayton's framework, my three levels of analysis of musical immersion differ in that they include the audience, and each level contributes to the next; level three is dependent on levels one and two.

Level 1: Musical Immersion within the Individual

Experiencing music live can often be considered a special occasion. Depending on their level of familiarity with the music or the artist, audience members may use the time in between the purchase of a ticket and the performance as an opportunity to explore and prepare for the concert. This preparation is one of the many factors that can influence the level of immersion an individual can potentially achieve during the live music experience. Some studies, such as the one conducted by Brown and Novak (2007), have indicated that a prepared audience tends to have a more positive experience during a live performance. In 2019, a study conducted by Swarbrick et al. showed that the performer's self-reported fans who participated in the research achieved higher levels of engagement than the rest of the participants in the audience. My analysis of two different sets of data, one that I gathered through interviews with members of the Mondavi Center audience, and another collected by the Center in the form of feedback reports, suggests that there are different levels of familiarization an individual can have in relation to a performance. Among them are musical style, artist(s), and repertoire.

The majority of the listeners familiar with the artist(s) reported positive feedback even when the repertoire performed was unfamiliar to them. This was supported by the comments from the Mondavi Center audience for American jazz vocalist Cecile McLorin Salvant's performance on Monday March 9, 2020, in Jackson Hall. Salvant has sung in the Mondavi

Center in three other seasons, and on those occasions, she performed her interpretations of jazz standards and other well-known compositions such as songs from Leonard Bernstein and Stephen Sondheim's *West Side Story* (originally produced in 1957). This time, however, Salvant's concert was a presentation of her original composition, *Ogresse*—a 90-minute through-composed song cycle that tells a fantasy story that Salvant also wrote. While there are moments that feature familiar jazz chord progressions, the majority of the music in *Ogresse* is characteristic of musical theater. This combination of styles is a departure from the standard jazz style most listeners have come to expect from Salvant. Nonetheless, that evening, Salvant captivated the audience with the sounds of her voice and her accompanying ensemble. At the end of the performance the audience reciprocated with an eruption of applause building into a long standing ovation. Members of the audience continued their praise in the Mondavi Center feedback email. Patrons wrote accolades such as "I've seen over 100 shows at the Mondavi [Center] and *Ogresse* is in my top five of all time" and "Omg her performance was incredible. A religious experience." Only three out of 43 emails submitted the week following her concert expressed dissatisfaction with the repertoire, even though they were very impressed by the artist's performance. Two out of the three people who complained clearly stated that they were unfamiliar with the repertoire and were disappointed in not hearing Salvant's "glorious voice" as they had "heard it in the past."

In general, for series subscribers who purchased tickets of the Mondavi Center's pre-packaged bundles, mainly based on music style, the level of satisfaction was more varied. The majority of subscribers whom I interviewed at different performances confessed that they were attending a performance simply because it was part of a package; they trusted that the Mondavi Center brings good quality performers, and some also conveyed their interest in hearing

something new. For these reasons, the majority of my interviewees who attended performances part of the Studio Jazz series[52] admitted not taking the time to familiarize themselves with the artist they came to see. After one of the performances, a subscriber expressed in her interview that she had a "difficult time" during the concert because the repertoire was "too progressive or modern" and although she likes being exposed to new music, she "prefers to hear and follow a melody" in order to enjoy a performance. For this individual, the lack of a predictable melodic contour challenges her ability to pay and maintain her attention therefore hampering her experience of the performance.

As presented in the aforementioned examples, concert goers are more likely to know the repertoire to be performed based on their level of familiarization with the music style and the performing artist(s); however, I did encounter one exception. On Saturday January 18, 2020, an ensemble from the Sacramento Preparatory Music Academy performed the entire content of the Beatles' *White Album* (released on 1968) in Jackson Hall. Since this was a fundraising event for the Academy, at first, I thought that people purchased tickets mainly to support it. However, none of the 16 people I interviewed were familiar with the Academy; they bought their tickets because they wanted to sing along while hearing a live performance of songs they knew by heart. Seeing most of the individuals in the audience singing and/or moving their heads to the beat of the music served as evidence that there was engagement and entrainment with the music. This event helped me reflect on the importance of cover bands for individuals as this audience searches for an experience of music that is familiar yet different from listening to a recording of such a music, regardless of who is playing it. Furthermore, it exemplifies Attali's argument on

[52] As of March 2020, the Studio Jazz series take place in the Vanderhoef Studio Theater, not in Jackson Hall.

the time-value ascribed to the live music experience: people will invest their money in it due to its ephemerality and uniqueness in relation to the passing of time.

While conducting my fieldwork, I noticed that I did have a greater and different level of immersion during concerts when I had previous knowledge of the repertoire. On two specific occasions I had tears running down my face, namely during Itzhak Perlman's solo performance of John Williams' theme from the 1993 film *Schindler's List,* and when Ladysmith Black Mambazo sang "Unomathemba," a song from their 1987 album *Shaka Zulu.* Although I watched the movie *Schindler's List* roughly 20 years ago and I don't remember too many specifics about its scenes, I could recognize the melody of the music theme that Perlman played that evening by only hearing the first couple of notes. I have been familiar with the song "Unomathemba" since 2016, when I started working as a teaching assistant for the "Musics of the World" class at UC Davis. I also got goosebumps, or music-induced frisson,[53] several times during the San Francisco Symphony's performance of Gustav Mahler's Symphony No. 9 in D Major, and the Academy of San Martin in the Fields' rendition of Ludwig van Beethoven's Symphony No. 5 in C Minor, op. 67; both compositions are very familiar to me from my music history studies. However, tears and goosebumps had not shown up before when I listened to recordings of these compositions at home or in the classroom.

I did not expect the tears and goosebumps. I became aware of the tears when the sound ceased at the end of the performance of the pieces. Along with Ladysmith's audience I applauded, and with Perlman's audience I exhaled loudly and in unison as if we had been holding our breath together while he was playing.[54] The goosebumps were intermittent. On such

[53] Goosebumps is the common term for piloerection. The term *frisson* is used to encompass a variety of sensations including goosebumps. In this chapter, I follow Huron and Margulis definition of frisson as "pleasurable piloerection" (2011, 591). For more information about frisson, see also Harrison and Loui 2014.
[54] I will examine the experience of being immersed with others in level 2.

occasions, I felt disoriented and upset as I realized that my concentration had shifted from observing the audience-artist interaction to focusing on the artist's interpretation of the music. I was enjoying, listening, and paying attention to the performance and not conducting my research. However, these were the moments in which I unconsciously became a deep listener and experienced musical immersion. I felt deeply connected to everything and everyone around me and lost my awareness of time and space.

My experience, however, is not necessarily representative of others' experiences. Tears and goosebumps are exteriorized physiological manifestations of emotion, that in my case were linked to my state of musical immersion. Individuals, including myself, can be fully immersed without externalizing the experience; immersion and externalization are not mutually exclusive. These, as well as other emotional experiences, are personal and not always easily perceived by others. Psychologist Robert McCrae relates aesthetic chills and frisson in response to visual arts and poetry to the individual's personality (2007). In his research, McCrae has found that individuals with the personality dimension of "Openness to Experience" are more attentive to the world and are prone to have an emotional response when experiencing the arts (Ibid., 10).[55] McCrae's description of an "Open" person as "curious, innovative, and imaginative" (Ibid., 11) match my own estimation of my personality traits. In addition, I am female and have been a music student since I was a child. These characteristics increase my susceptibility and tendency to experience frisson, according to cognitive scientists David Huron and Elizabeth Margulis (2011, 592-93).

[55] The relationship between an "Open" personality and the likelihood of experiencing goosebumps has been furthered studied and confirmed in studies such as Colver and El-Alayli, 2016; Nusbaum and Silvia, 2011; Nusbaum et al., 2014; Silvia and Nusbaum, 2011.

Although familiarity with a piece of music may influence the level of attention given to it and thus engagement and entrainment to the music during a live music performance, it is not directly related to the likelihood of that individual experiencing frisson (Guhn, Hamm, and Zentner 2007). Instead, reactions to specific musical characteristics such as slow tempo, sudden changes in dynamics, and instrumentation are closely related to music-induced physiological responses in listeners (Sloboda 1991; Guhn, Hamm, and Zentner 2007). In other words, it is possible that even if I didn't remember the melody of *Schindler's List's* theme song or hadn't watched the movie, the musical characteristics that define the theme, such as its melodic intervals (mostly expanding larger than an octave), its harmonic progressions (commonly iv–V–i in D and A minor), and Perlman's mastery of the rubato and vibrato, would have elicited in me an emotional response. In addition to the characteristics of the music and of the individual, there are other external factors such as the other individuals around the listener (to be explored in level 2) and the characteristics of the space (to be examined in the next chapter) that influence the individual in the live music experience.

The process of musical immersion for musicians is different when they are performing. For musicians, the level of experience with their instrument and familiarity with the music are integral to the performance and becoming musically entrained and immersed while playing. In his first level of entrainment, "intra-individual musical entrainment," Clayton writes about the entrainment of a musician's neurons in processing rhythm and coordinating the body part that will express that rhythm. He highlights that "Although the process of beat tracking seems to be innate, the ability to discriminate and identify particular metrical patterns in music is a learned skill, and one that varies considerably between cultures" (Clayton 2013, 30). Being constantly exposed to a music style influences how a body reacts to it. Arguably, this is true for both

audience and musicians. However, a musician's level of skill and familiarity with the music influences how other listeners perceive and react to that musician's performance. For example, Giraldo Piloto, a Cuban musician interviewed by ethnomusicologist Kjetil Klette-Bøhler, remarked that "Through the clave you can distinguish between how a Cuban band playing *la música cubana* sounds unique and distinctly correct as opposed to a group from another country that plays *la música cubana"* (Klette-Bøhler 2013, 82). Piloto's comment corroborates Clayton's statement. Although being from a country is not a prerequisite for playing the music from that country, musicians who were not born hearing and feeling a particular music style may need to work harder at assimilating and transmitting the essence of such music later in life.

A musician's level of familiarity with the music increases with practice and experience. Learning new musical skills is a challenge that musicians consistently face. According to Csikszentmihalyi's theory of flow, the greater the musical challenge the more activated the brain becomes as a greater amount of attention is required. This investment of attention in surmounting musical challenges leads to states of flow (Csikszentmihalyi [1990] 2008). In addition to musicianship, there are other elements that influence a musician's immersion in a performance. Among these elements are internal distractions, level of comfort with accompanying musicians, acoustics of the performing space, and receptiveness of the audience. Every musician handles these elements and approaches the performing aspect of their career differently, even from one performance to the next.

Sandy Wilson, a cellist who has been playing with the Alexander String Quartet (ASQ) since founding it in 1981, spoke with me about his process before going on stage.[56] Wilson described himself as a "process-oriented person." Although not always consistent, there are some

[56] Sandy Wilson, interview with the author, June 26, 2020.

characteristics in his process that he recognizes as being present in all performances. He remarked that before a performance "he needs to be in a controlled state," and he achieves such a state by "pushing aside distractions." For Wilson, a performance begins before going on stage, which is why he likes to pay attention to the pre-concert announcements. He claims that he does not get nervous; he gets "ready." For Fred Lifsitz, who has played with Wilson in the ASQ since 1987, "there is always that immediate spark of playing for people"; the desire to satisfy the audience does cause "a little bit of nervousness" in him.[57] The statements by Wilson and Lifsitz are examples of how two professional and skilled musicians playing under shared circumstances retain their individual approach to the live music experience. Their responses also show the mental preparation musicians follow before a performance, a preparation that would facilitate their achievement of a level of attention that usually leads to musical entrainment and most likely to musical immersion.

Whether as a musician or a member of the audience, the experience of music is unique to the individual. For an individual, achieving musical immersion is dependent on attention. In other words, the amount of attention an individual musician or member of the audience, dedicates to the music determines the effect such music will have on them. In the next levels, I examine how an individual's attention to the music can influence others in achieving and/or maintaining their attention during a music performance.

Level 2: Musical Immersion within a Group of Individuals

When making music together, musicians not only play their instruments and listen to themselves, but they must also listen to the other musicians in the ensemble. For Doyle Ambrust,

[57] Fred Lifsitz, interview with the author, June 22, 2020.

the violist of the Spektral Quartet, "powerful moments" are created among musicians when they interact or play together. According to Ambrust, these moments can only be achieved when musicians are so comfortable with the material that they are playing that they can afford to "distance themselves from the page [of score]" and seamlessly "look across and smile at the person with whom you have been working for years."[58] Ambrust's testimony is an example of ethnomusicologist Benjamin Brinner's theory of musical competence and interaction. Brinner addresses the questions of how musicians do what they do and how they make music together. For Brinner, musical competence relates to the mastery of accumulated skills and knowledge, and it is individualized and contextualized around musical communities/traditions (1995, 28-29). Musicians depend on and display their musical competence when playing with other musicians. In doing so, musicians assume roles and establish conventions to communicate while performing. This system formed by networks of musicians is what Brinner describes as musical interaction (1995). Smiling while performing, for Ambrust, is a type of musical interaction facilitated by his musical competence. Based on Ambrust's description of his powerful moment, I consider that his momentary smile is evidence of his level of individual immersion drawing in another member of his group, and consequently the audience.

Due to the level of concentration required, musicians who have mastered their playing and listening skills usually achieve musical immersion. I propose that this immersion is directly linked not only to a musician's own musical entrainment but also to the entrainment between that musician and the other musicians in the group. In describing the entrainment between musicians in a group, Clayton remarks that it is "very similar or identical to that between the different body parts of a single individual" (2013, 31). In other words, whether the entrainment occurs within

[58] Doyle Ambrust, interview with the author, January 31, 2020.

the individual or between individuals, the process of entrainment does not change. However, other elements such as musical hierarchies among musicians (soloist versus accompanist) affect the interactions that are part of the process.

Clayton's description of entrainment among musicians playing together relates to Charles Keil's theory of Participatory Discrepancies (PDs) which I have previously introduced in this chapter. Keil emphasizes that music is not merely a product, but a process. In this process, as musicians participate by playing, they are listening to each other. Through this process musicians entrain and become immersed in their music making experience. Musicians may or may not be aware of this process and speaking about it is not always easy. Based on his interviews with jazz musicians, Keil explains that they "conceptualize their work as playing 'together'…" and this togetherness "generates different kinds of groove or swing" (1995, 8). As musicians play together, they learn how to work with and/or adjust to each other. For guitarist Jean-Paul Bourelly, it is important to achieve a conversational connection to the musicians with whom he plays. He explains that while every musician's playing technique is important, having similar philosophical approaches to the music is key to creating and engaging in such conversation.[59]

From the audience's perspective, my interviewees associated losing track of time in a live music performance with how memorable the performance was to them. This happens when the perceived time is significantly different from the actual time of the concert's duration. However, in order to lose track of clock time, the listener must be fully immersed in the experience. Being fully immersed allows a person to shift the focus away from the passage of clock time and redirect it into the experience itself (Bailey and Areni 2006, 190). For many of my interviewees, the difference between experiencing a mediated and a live performance is that full immersion is

[59] Jean-Paul Bourelly, interview with the author, December 5, 2019.

easier to achieve in a live setting. Even though in a live performance, individuals do not have control over other individuals' behavior, which can be distracting, they have a higher control over, and/or perhaps limited access to, their personal distractions which include attending to communication devices, office or domestic chores, or other random activities. In other words, there is a specific purpose for being there. This was succinctly expressed in my interview with a member of the audience when she said that "…in a live show, I solely experience the moment of the musician making his magic."

The norms of a venue also aid controlling distractions. In the Mondavi Center, before a performance begins, a member of the staff addresses the audience, reminding them that "… for the comfort and enjoyment of those around you, please silence and dim all devices, refrain from any photography or recording, and unwrap your candies and cough drops . . ." This announcement encourages the audience to pay attention and avoid distracting others. It aims to minimize the number of external personal distractions, assuming that doing so will enhance the chances that more people will have a positive experience. Depending on the music style being performed, the audience expects some of these measures to be followed, but even under the most controlled circumstances, other external distractions still lurk during any live performance. As reported in the Constituent Feedback Report, some of these distractions include behaviors such as taking socks off, sitting cross-legged on the chair, and crying infants. Other distractions cited were sound reinforcement malfunctions and elements of the performance itself such as length, repertoire, and/or perceived quality of the performers.[60] Listeners complain about these distractions because they affect and often interfere with their experience.

[60] Constituent Feedback Reports are a collection of responses individually emailed to the Mondavi Center after every performance. See the Introduction for further details.

Audiences are groups of individuals who usually share an appreciation for an artist or a music style and gather to experience a performance. Based on their membership status, some individuals have the option to select performances within a pre-packaged series established by the Mondavi Center.[61] Through my interviews and observations, I identified that other factors, such as the day and time of a performance, membership of a group attending a concert, and access to special accommodations, influence how audiences come together. More of my interviewees mentioned these factors than the ticket cost of a performance. Although ticket cost is a factor, it does not seem to always be the main reason that prevents patrons from attending a concert. In fact, there were patrons who told me that they begin saving money to purchase a ticket to a performance from the very moment they find out an artist they want to experience live is going on tour.

In facilitating special accommodations for their audiences, the Mondavi Center has created different programs and series. For example, the jazz audience in the Vanderhoef Studio experiences the music as if they were in a jazz club—seating is arranged by table, which allows people to move with slightly greater ease around the room and to purchase drinks in the bar set up in the back of the Studio. This atmosphere allows for individuals to connect not only with the artist but with other members of the audience. Since the maximum capacity in the VST is 250 people, artists usually offer performances four nights in a row, Wednesday through Saturday. While the Wednesday concerts begin at seven o'clock in the evening, the other three begin at eight. I observed the four-night series of concerts by four different artists, namely Kendrick Scott Oracle in October 2019, Musica Nuda in November 2019, Tord Gustavsen Trio in January 2020, and Melissa Aldana Quartet in March 2020. With the exception of Musica Nuda, the repertoire

[61] See the Introduction for descriptions of the Mondavi Center series.

these artists played was very similar every night since they were promoting their latest album. Through my observations, I noticed that there was something different about the Thursday night performances. The Thursday night audience seemed more engaged: I saw more people physically keeping the rhythm by either moving their heads, their fingers, or their feet; I noticed that the clapping was very precise and well balanced (not too little or too much); and I heard the audience emitting subdued vocal expressions. When I asked a member of the audience why he purchased his ticket for the Thursday night show, he stated that "the Wednesday audience was too serious for him and the ones on Friday and Saturday weren't serious enough." He considers himself a jazz aficionado and has been a jazz series subscriber at the Mondavi Center for many years. He identifies with the Thursday night audience.

In one of my many informal conversations with some members of the Mondavi Center stage crew, I asked nonchalantly if they had a preferred evening out of the four. They quickly concurred that on Thursday evenings everything normally runs smoother. From their perspective, they are more comfortable with the artists' production needs than on Wednesdays, and in many cases, they believe that the artists are more rested and acclimated having performed the night before. Since I had the opportunity to speak with a representative of all four performing ensembles, three admitted that their energy level was higher or different on Thursday night. They also noticed that the Wednesday audience was more reserved. Musical immersion within a group is dependent on the individuals who are part of such a group and their individual process for achieving their own immersion. It is likely that, due to the listed circumstances, during the Thursday-night performances the musicians achieved a deeper level of musical immersion which in turn, through the Energy Transmission Loop, facilitated the audience to engage, entrain, and possibly reach musical immersion as well.

Although the artists felt that all their performances were well-received, one of them did express that there was something special about the Thursday evening show. Based on personal observations and interviews with jazz musicians, in his book, *Thinking in Jazz,* Paul Berliner identifies three types of jazz audiences, namely the *knowledgeable,* which is usually other jazz musicians or music scholars; the *sophisticated*, commonly found in a night club setting and which includes those "who lack a serious interest in jazz but nevertheless appreciate it"; and the *difficult* audience, described as "ignorant of jazz and oblivious to the music" (1994, 457). Berliner's typology underlines that there are different audiences. According to it, the "Thursday-night-audience" at the VST is likely formed by a higher number of jazz connoisseurs than sophisticated or difficult types.

While Berliner's categorizations refer to jazz audiences, they could also be applied to other music genres. For instance, Sandy Wilson, cellist for the Alexander String Quartet, admits that one of his favorite places to perform is the Royal Concertgebouw in Amsterdam, Netherlands, which has a faithful audience that frequents the concert hall and attends the ASQ performances. Wilson explained that this audience "does their homework" as they come prepared and ready to listen to the performances. For Wilson, this kind of audience adds to the concert experience and pushes him as a musician to excel as well as to "take risks" because he knows the audience will recognize and respect those risks.[62]

Audiences and performers are groups of individuals who may achieve immersion individually while also having the opportunity to experience it along with others in their groups. In the first and second levels of analysis I have examined musical immersion within the individual and within a group. I separate the audience and the performers not with the intention

[62] Sandy Wilson, interview with the author, June 26, 2020.

to reinforce the binary but to introduce some of the factors that facilitate or interfere with the process of musical immersion for each group. The third level of musical immersion is centered on the coalition of these participating groups and how they affect each other during the live music experience.

Level 3: Musical Intra-Immersion

Audiences and performers influence each other. In a live performance, the familiarity of an audience with the music style being performed influences the audience behavior and the performers perceive it. Ethnomusicologist Wim van der Meer tells a story about when Ravi Shankar began to perform around Europe and the United States. Facing the lack of response from the audience, Shankar encouraged the musicians to respond to each other's playing, attempting to replicate the feedback provided by the Indian audience. Interestingly, Meer points out that at times the audience began to imitate the musician's behavior, but unfortunately this caused an adverse reaction in the musicians as the untrained Euro-American audience did not always respond during the appropriate moments. Meer concludes stating that "one needs to have training in the cultural environment of the concert praxis to get it right" (2014, 172). Well-timed audience feedback is important in every musical style performed live. An audience lacking familiarity with a music style can disrupt the process of musical immersion for the musicians.

For musicians, the relationship with their audience is a top priority. Pianist Tord Gustavsen remarks that music becomes a reality when it is played in front of an audience.[63] Relating or connecting with the audience is not to be confused with being concerned about whether the audience likes or dislikes the music being played. From my interviews with

[63] Tord Gustavsen, interview with the author, January 22, 2020.

musicians, I have realized that achieving such a connection is associated with the state of immersion of the musicians and the response or the Energy Transmission Loop they create with their audience. In addition to their own musical immersion, musicians hope or want to create an experience that will help their audience achieve musical immersion as well.

Every musician speaks and describes differently their experience of connecting with the audience and reaching what I have been referring to as musical immersion. Pianist Tord Gustavsen describes as a "communal experience" when the music he is playing engages and connects with the audience.[64] At the end of a concert, guitarist Jean-Paul Bourelly is satisfied when he, along with the other musicians with whom he is playing, have a "sense of transformation" early in the show and maintain it. He believes that "if the musicians transform, the audience will also experience a transformation."[65] I take Bourelly's "transformation" as being analogous to a state of musical immersion. The main goal of cellist Sandy Wilson is to become a vessel for the music and for himself "to get out of the way" so that the audience can experience it.[66] Violinist Fred Lifsitz explains that when he is a member of an audience, "as a listener he wants to breathe with the performers" and as a performer he wants his audience to "breathe" with him.[67] For Drummer Kendrick Scott the word "surrendering" is what best describes what I call a musical immersive experience. He explains that while moments of "surrendering" come and go throughout a performance, he likes to remain in that "space in which his band and the audience are one; they are collaborators."[68]

[64] Ibid.
[65] Jean-Paul Bourelly, interview with the author, December 5, 2019.
[66] Sandy Wilson, interview with the author, June 26, 2020.
[67] Fred Lifsitz, interview with the author, June 22, 2020.
[68] Kendrick Scott, interview with the author, October 26, 2019.

In October 2019, Kendrick Scott Oracle (KSO) played four nights in a row (Wed-Sat), at the Vanderhoef Studio Theater. KSO is a post-bop jazz quintet led by drummer and composer Kendrick Scott. This performance was part of the band's promotional tour for their new album, *A Wall Becomes a Bridge* (2019). The album holds 12 tracks composed, mostly by Scott, as a song cycle intended to invite the listener to reflect on the meaning of politically and personally inflicted walls. While promoting the album kept the repertoire consistent from one evening to the next, every evening the performance was a different experience. Months later, while working on my analysis, I noticed that one particular evening stood out in my notes. It happened to be KSO's Thursday evening performance which reinforces the aforementioned idea that Thursday evenings are somehow different in a series of shows performed four nights in a row. During the Thursday night performance, in the middle of one of the pieces, Scott raised his hands and began to clap to the beat. This action signaled the audience to follow him and the energy in the room became electrifying. Since this invitation to keep the rhythm through clapping only occurred on Thursday, two days later during our conversation, I asked Scott why he didn't invite the audience to clap along in the other performances. Although he admitted not remembering the event, he chuckled and exclaimed, "that was a moment!" Scott explained that he avoids pre-planning these "moments," and that he likes to surprise the audience as a way to keep them engaged.[69] Csikszentmihalyi describes that in a state of flow "people become so involved in what they are doing that the activity becomes spontaneous, almost automatic; they stop being aware of themselves as separate from the actions they are performing" (Csikszentmihalyi [1990] 2008, 53). Scott's "moment" fits Csikszentmihalyi's description of the state of flow. In addition, this "moment" demonstrates the careful balancing job musicians must master in order to achieve

[69] Ibid.

their own state of immersion while maintaining a connection with the audience, a connection that will help the audience achieve musical immersion as well. This was a moment in which musical immersion emerged from within the two interacting groups namely, musicians and audience. I call this kind of moment *musical intra-immersion*.

I use the prefix "intra" borrowing the approach adapted by philosopher and theoretical physicist Karen Barad who introduced the concept of *intra-action* in her theory of agential realism. For Barad, intra-action "signifies the mutual constitution of entangled agencies" (2007, 33). Agency here is understood as the ability of an entity or component to act independently and it is the entanglement of agencies that creates or causes a phenomenon. She explains a phenomenon as "a specific intra-action of an 'object' and the 'measuring agencies'; the object and the measuring agencies emerge from, rather than precede, the intra-action that produces them" (Ibid., 128). In other words, a phenomenon is the entanglement of what is being studied, the object, and the way in which it intra-acts with human and non-human actors, the measuring agencies. Barad argues that "It is through specific agential intra-actions that the boundaries and properties of the components of phenomena become determinate and that particular concepts (that is, particular material articulations of the world) become meaningful" (Ibid., 139). In Barad's intra-action, the Cartesian subject-object dichotomy is dissolved. The phenomenon of musical intra-immersion is not just the immersion experienced at an individual or group level ("the object"), but the result of the intra-action of human and non-human actors ("the measuring agents") including the music, the musical space, the musicians, and the audience, among others. As non-separate entities, object and measuring agencies become responsible for the creation and development of a phenomenon. I am introducing the term *musical intra-immersion* to specifically describe moments of increased level of attention and greater transmission of energy

that fully engage, musically entrain, and musically immerse audience and performers, creating a co-constitutive entity. In this way, musical intra-immersion is part of the Energy Transmission Loop in the live music experience.

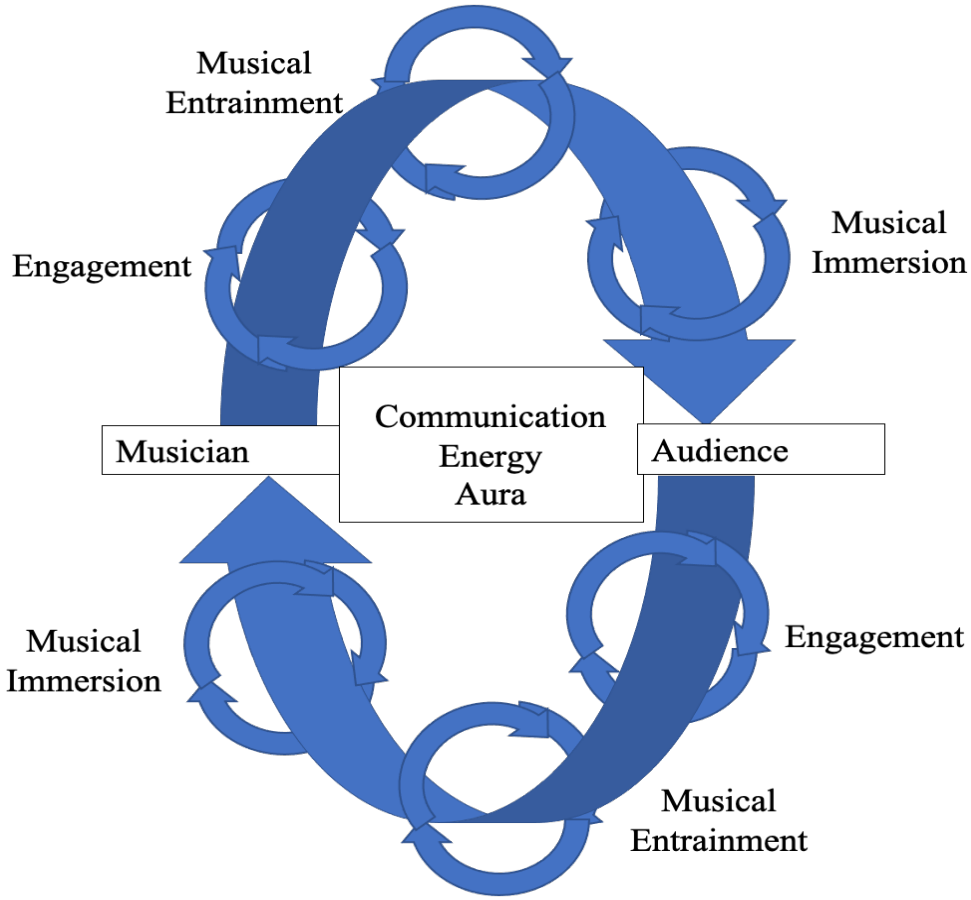
The prefix *intra* indicates emergence from within; regardless of the number of participating entities, when they "intra-act," they constitute one single entity. On the other hand, the prefix *inter* represents something that occurs between or among two or more independent sources and this independence is maintained throughout the inter-action. This distinction between intra- and inter- is useful in explaining the second and third levels of musical immersion. I argue that when an audience is present as an artist performs, their inter-action (maintained in level two) becomes an intra-action (formed in level three) as musical immersion, and potentially as musical intra-immersion, occurs as a recurring process that is part of the Energy Transmission Loop. In other words, musical immersion emerges out of the inter- and intra-actions of the audience and performers. It also is affected by the environment surrounding them, the musical space—which will be the focus of the next chapter. During a live performance, everyone and everything (human and non-human actors) inter- and intra-act with the phenomenon of musical immersion because everyone and everything is a component in its creation.

Closing Thoughts

In a live music performance, engagement, musical entrainment, and musical immersion are all processes of attention that originate out of the interaction between musicians and their audience. I illustrate this interaction through the Energy Transmission Loop (see Figure 2.2). Each process develops based on the amount of attention given to the musical event, and

individuals, musicians or members of the audience, may experience them numerous times (or not at all) during a performance.

Figure 2.2 Processes of Attention and the Energy Transmission Loop



Through my analysis of these processes of attention, I aim to highlight that listening, as a form of attention and as a multisensory activity that involves the entire body (as discussed in Chapter One), is central to the musical experience. Although such a statement may seem rather obvious, the act of listening can be challenging for an individual. Distractions abound and they not only disrupt an individual's immersion but immersion within a group. Deep listeners allow themselves to become fully immersed in the musical experience; in listening deeply, they

"become the music," as Kramer describes (1988, 7). Attending a live music performance affords listeners the opportunity to experience music with others who would probably engage with the music and pay attention to it to the extent of entraining with music's inner time facilitating musical immersion and losing track of clock or outer time.

On stage, musicians must maintain a high level of engagement with their playing (first level of musical immersion) and with each other (second level of musical immersion) so that the audience can perceive it and attend to it, creating a connection with the musicians and the music (musical intra-immersion or third level of musical immersion). Artists gain experience at reading and understanding their audiences, and often come prepared for a particular kind of audience. Thus, the audience-artists interaction begins before a performance, in the preparation stage. Just as audiences have expectations of a performer, performers have expectations about how the audience will behave. The fulfillment of such expectations is conducive to moments of musical immersion.

During a performance, the experience of musical intra-immersion (the third level of musical immersion) unifies artists with audience, and artists describe such an experience in unique ways. For example, pianist Tord Gustavsen "shares" the music; guitarist Jean-Paul Bourelly "transforms" through the music; cellist Sandy Wilson "becomes" music; violinist Fred Lifsitz "breathes" along with the music; and drummer Kendrick Scott "surrenders" to the music and collaborates with the audience in creating an experience. Bassist Red Mitchell explained to Charles Keil that "when it came to playing, he tried to get to what he called 'the fourth level of consciousness' beyond individual time sense, group interactive time sense, and audience-event time sense, because any attention to these three lower levels would surely spoil the sheer joy of

being at the ‘fourth level’” (Keil 1995, 8). Mitchell’s fourth level is equivalent to musical intra-immersion, a level in which music is experienced at its fullest.

The process of musical immersion is not limited to the live music experience. However, all three levels of analysis of musical immersion proposed in this chapter are more likely to be found in the live music experience. Given the unpredictable nature of such experience, it is impossible to generalize about the level of immersion that either a performer or an audience member could reach. Generalizations are neither appropriate nor helpful when discussing musical immersion because the variables are uncountable. Nevertheless, the level of musical immersion correlates to the amount and type of energy listeners infuse into the Energy Transmission Loop generated during the live music experience.

Awareness of musical immersion could potentially persuade performers and audiences to pay closer attention and allow themselves the experience of becoming music. The embodied nature of listening to music is palpable in the effect music has on the body. Music moves the body and through this movement humans engage and entrain not only with the music but with others. However, musical immersion can only be experienced if those involved actively participate and invest attending energy into the music experience.

CHAPTER THREE: INTIMACY AND SPACE

Standing next to a trashcan by an exit of the L'Enfant Plaza metro station in Washington, DC, world-famous violinist Joshua Bell played his violin during the morning rush hour on Friday, January 12, 2007. For the occasion, Bell wore jeans, a long sleeve t-shirt, and a baseball cap. He had his violin case opened to accept donations from subway passengers. Bell's 43-minute performance was part of an experiment conducted by *The Washington Post*. A hidden video camera recorded the event and showed that out of the 1,097 people who passed by, only seven stopped to listen to Bell for at least one minute. Due to the location of the L'Enfant Plaza metro station, the majority of people who frequent the station are government workers, or as journalist Gene Weingarten describes them, "mid-level bureaucrats with those indeterminate, oddly fungible titles: policy analyst, project manager, budget officer, specialist, facilitator, consultant" (2007). From the 1,097 people who walked by Bell that morning, he collected only $32.17 in his violin case from 27 people. Apparently only one individual recognized the celebrity; this individual let him know she had attended one of his concerts three weeks prior (Ibid.).

The Post's social experiment focused on evaluating the influence that context, perception, and priorities have in humans' daily life and posed the question, "In a banal setting at an inconvenient time, would beauty transcend?" (Ibid.). While I do not address this question, I use this assessment as a backdrop to my examination of the relationship between sound and space, how they affect each other, how they affect listeners, and ultimately how they affect the Energy Transmission Loop created during the live music experience. In the previous chapters, I examined the interactions and intra-actions responsible for exchanging energy among participants and discussed the association between the perception of time and musical immersion

in a live music performance. In this chapter, I explore the role of the concert setting, in this case, Jackson Hall and the Vanderhoef Studio Theater, as part of these inter- and intra-actions. For this chapter, the Post's social experiment serves as an anchor to the question, how specifically does space matter in the live music experience? In addressing this question, I discuss the influence of space and its association with the concept of intimacy.

In writing about intimacy and architecture, architect Susana Ventura asserts that "The space of intimacy is a space where to sleep, lie, sit, look at the landscape become imperceptible movements, long unhurried pauses, where time stands still and the world is kept outside" (2016, 167). These pauses are what according to humanistic geographer Yi-Fu Tuan define a place. He elaborates, suggesting that "Animals, including human beings, pause at a locality because it satisfies certain biological needs. The pause makes it possible for a locality to become a center of felt value" (1977, 138). In this chapter, I contend that the physical and sonic aspects of and around a performance venue such as the Mondavi Center are interconnected elements that shape a space in which humans enter to experience music. Throughout the chapter, the word *listeners* continues to include both artists and audience, although in some cases I will refer specifically to one or the other in order to depict specific characteristics of the musical space and the roles of particular listeners in transforming the musical space into place.

The Mondavi Center as Space and Place

At the beginning of most performances in the 2019-2020 season, a member of the Mondavi Center staff made an announcement welcoming the patrons, reminding them to silence their electronic devices, alerting them to the emergency exits, and making the following acknowledgement:

> We should take a moment to acknowledge the land in which we are gathered. For thousands of years this land has been the home of Patwin people. Today there are three federally recognized Patwin tribes: Cachil DeHe Band of Wintun Indians of the Colusa Indian Community, Kletsel Dehe Wintun Nation, and Yocha Dehe Wintun Nation. The Patwin people have remained committed to the stewardship of this land over many centuries. It has been cherished and protected, as elders have instructed the young through generations. We are honored and grateful to be here today on their traditional lands.

According to the UC Davis' office of Diversity, Equity, and Inclusion, this "land acknowledgement statement" was approved by the Yocha Dehe Wintun Nation and the three Patwin tribes.[70] The statement promotes awareness of the historical trauma associated with the space and of the attempts toward reparation that have taken place in recent years.

The fact that Patwin people used to live in the area is well documented and known by the University. In 1999, as the space was being prepared for the construction of the Mondavi Center, the digging unearthed a Native American burial mound. That space which had been paved and used as a parking lot, was centuries earlier home to the Patwin people. Retired Associate Vice Chancellor and Campus Architect Clayton Halliday relates that when the human remains were discovered, the University engaged the services of an archeologist and the campus environmental planner to oversee the ethical relocation of the human remains.[71] Halliday shared that because the University is aware of the possibility of finding Native American artifacts and/or human remains when digging around campus, there are protocols in place such as having an archeologist on-call and informing the Patwin Tribe.

In addition to the repatriation and reburial of the fourteen bodies found, two Native American blessing ceremonies were conducted as part of the grand opening events of the Mondavi Center: one by Patwin Elder, Edward 'Bill' Wright and the other by George Longfish

[70] https://diversity.ucdavis.edu/land-acknowledgement-statement (Accessed May 13, 2021).
[71] Clayton Halliday, interview with the author, May 5, 2017.

who at the time was a UC Davis professor of Native American Studies. Chancellor Vanderhoef, in his memoir about his years at UC Davis, describes the ceremonies: "Fanning smoke with a feather, Professor Longfish performed the blessing and expressed hope that the Mondavi Center would become a place where understanding and wisdom would flourish. (Patwin Elder Bill Wright also blessed the center at the next day's ribbon-cutting, followed by a performance of traditional California Indian dance.)" (2015, 21). In the aftermath of finding and repatriating the human remains, University staff in collaboration with representatives of the Patwin people conceived and planned the installation of an outdoor contemplative garden to honor the Patwin who lived in the area and were forced by Spanish soldiers and missionaries to relocate to missions during the 1800s. The centerpiece of the project is a basalt column with an inscription of the phrase: "Then, now and always – a part of this land" along with the names of 51 of the Patwin people who were removed from their land. This garden acknowledges the ongoing presence of Patwin people on the lands upon which UC Davis and the Mondavi Center are constructed.

Having determined that the relocation of the human remains had been handled in an acceptable manner, the Patwin people determined that the construction of the Mondavi Center should proceed. On May 19, 2000, Chancellor Vanderhoef, other University luminaries, representatives of the Patwin community, and a few prominent donors broke ground using shovels with handles that resemble the scroll of a cello (Vanderhoef 2015, 13). Although the handles were intended to serve as a reminder that a place for music was being built, it is ironic to think that a representation of a European musical instrument was part of the tools used to disturb once again the land of the Patwin. In their book, *Theater/Archeology,* performance studies scholar Mike Pearson and cultural anthropologist Michael Shanks state that "By the creative use

of the various fragments *of* the past, archaeology can become a significant resource in nurturing cultural memory, in helping to develop rich and plural cultural ecologies based on alternative notions of heritage and ultimately in constructing and energizing contemporary identities" (2001, 157). The essence of this quote captures the vision of people such as the Tribal Council Chair of the Yocha Dehe Wintun Nation, Paula Lorenzo, who on behalf of the Council donated $600,000 toward the construction of the Mondavi Center (Vanderhoef 2015, 14). In reference to the donation, Lorenzo said that the reason behind it was "Helping to ensure that cultural and performing arts remain an integral part of the fabric of this region . . ."[72] The donation also brought the added benefits of visibility and connection to the Yocha Dehe Wintun Nation since the grand lobby of the Center honors the Tribal Council's contribution by carrying the name "Yocha Dehe Grand Lobby."

Finding human remains in a site that is being repurposed for a PAC highlights some of the significant and problematic aspects of the relationship between humans and the spaces they occupy. As a series of different communities claim ownership of the same spaces, the history of those spaces is often disregarded. The space now occupied by the University was once the home of a community of Native Americans, whose space was, over the years, appropriated by the Spanish and other European settlers, fought over and governed by Mexicans who then ceded to the control of the United States government (Scheuring 2001, 3-21). These changes developed throughout the 1800s; in 1906 the land was purchased on behalf of the University of California system (Ibid., 19). The blessing ceremonies and tribute installations as well as reading the land acknowledgement are not only reminders of the history of the space but also of the ongoing

[72] "Rumsey Rancheria (Wintun or Yocha Dehe), California," *Indian Country Today,* last modified September 12, 2018, https://indiancountrytoday.com/archive/rumsey-rancheria-wintun-or-yocha-dehe-california (Accessed March 15, 2022).

tension of the process of colonialism and the power relations that exist in society. Sadly, it took the unburial of Native American human remains during the construction of the Mondavi Center for Patwin people to have an opportunity to reclaim some of their legacy in the land that once was their space and place.

After many years of planning and three years of construction, the building became a reality. From its conception to this day, every decision made addressing every detail of the Mondavi Center contributes to the transformation of the space it occupies. Such attention to detail is appreciated in the 1998 Detailed Project Program (DPP) for the then referred to as "UC Davis Center for the Arts." The DPP documents the careful planning and attention to detail that a project of such a magnitude entails. According to the DPP, the site for this architectural endeavor, and the desire to convert the area of the southern border of the university into an "Arts Quad" (BOORA 1998, Section 2 Page 1), were determined in the early 1990s, approximately ten years after it was originally proposed.[73]

Geographically, the Center is located south-east from Mrak Hall—the building that hosts the office of the University's chancellor—and it is visible and accessible from the interstate. The geographic location symbolizes the significance of a building within a community as it relates to its social function. In the case of the Mondavi Center, Chancellor Vanderhoef announced during his inauguration as Chancellor in 1994 that "we will build a performing arts center that 'will symbolically and practically stand as UC Davis' commitment to the arts and humanities…. It is a facility that we must have'" (Vanderhoef 2015, 12). Demonstrating an interest in the arts is an effective way for universities to attract private donors; to balance investment in their different disciplines; to attract and host a more diverse student and professorial body; and to connect and

[73] The original site was at Aggie Villa, west of where the building was finally constructed.

serve the communities that surround their campus. In addition, being able to build a PAC symbolizes growth for an academic institution and this growth can satisfy competitive ambitions. As Critical University Studies scholar Christopher Newfield states in his book, *Ivy and Industry,* "Growth was also part of a competitive system in which universities ranked themselves against their peers, poached faculty, imitated successful programs, and dreamed of glory" (2003, 28).

In her book, *Local Glories: Opera Houses on Main Street, Where Art and Community Meet*, city planner Ann Satterthwaite provides examples of how in the 1900s, opera houses across small towns in the United States became "visible symbols of a town's civic pride" (2016, 209). Satterthwaite elaborates by stating: "Frequently embedded in a commercial block on Main Street, some might face the county courthouse on the town square as in Minden, Nebraska. Others might stand alone dramatically on the brow of a hill or perched on a riverbank, like the Goodspeed Opera House in East Haddam, Connecticut" (Ibid.). In modern times, most people use the highways to avoid driving through the center of towns. Therefore, being able to see and easily reach the Mondavi Center from the interstate would be the equivalent to driving through "Main Street" back in the early twentieth century. The Mondavi Center, along with the water tower displaying the words "UC DAVIS" in big blue letters, dominate the visual perception of the area, especially from the interstate. As Richard Atkinson, former President of the University of California, commented, "No one will ever whiz by on I80 without making a firm mental note of the presence of the University of California, Davis" (Vanderhoef 2015, 24).

In studying the relationship between "space" and "place," Tuan begins by distinguishing between them. Tuan explains that "What begins as undifferentiated space becomes place as we get to know it better and endow it with value" (1977, 6). Space refers to a physical and geographical location. Place gives meaning and definition to space. Thus, the space currently

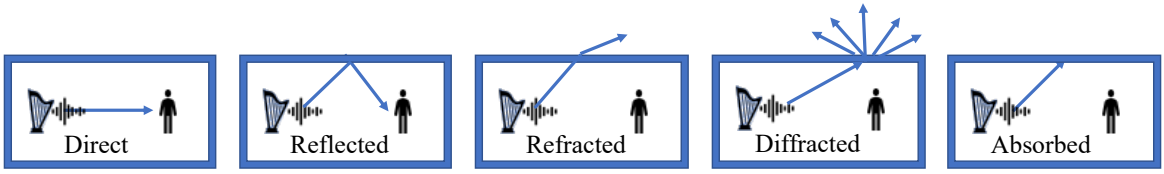
occupied by the Mondavi Center has been transformed into a variety of places over time—it was a burial place for the Patwin people; then a place to park cars; and currently the site of a building for the performing arts. Geographer Tim Cresswell remarks that "When humans invest a meaning in a portion of space and then become attached to it in some way (naming is one such way) it becomes a place" (2004, 10). Thus, the building named the Robert and Margrit Mondavi Center for Performing Arts is a place located in a space. Moreover, within a place there are usually other spaces, and these spaces have the potential to become places themselves. Inside the Mondavi Center, for example, there are several spaces such as the ticket office, the lobby, the main hall, and the studio theater. Although some of these spaces have their own name (the Yocha Dehe Grand Lobby, Jackson Hall, and the Vanderhoef Studio Theater) which according to Tuan and Cresswell is one of the characteristics that would make them places, I consider them musical spaces. I define musical space as any area in which listeners come together to experience music. This area is what musicologist Christopher Small refers to as the performance space (1998, 24). I use musical space because in studying the live music experience, it is the sounds associated with the space and how individuals perceive them that attribute special meaning to such spaces and thus turn them into places. This chapter illustrates how musicians and their audience imbue the musical spaces in the Mondavi Center with significance, thereby influencing the reception and perception of the live music experience and ultimately transforming it into a memorable and musical place.

Sound Behavior and Architectural Acoustics: A Brief Overview

Sound is what organisms perceive as the product of vibrations that propagate as waves through a medium (such as air). In *Sensing Sound,* musicologist Nina Sun Eidsheim

reconceptualizes sound from its consideration as object toward an understanding of sound as "event" that occurs through vibration (2015, 3). Similarly, acoustician and musicologist Fritz Winckel describes sounds as "physical realities inasmuch as they exist as pressure differences in the air, mechanical vibrations in the middle ear, liquid vibrations in the inner ear and finally as electrical impulses in the nerves leading to the brain" (1967, 4). When a sound is produced, a medium (gas, liquid, and solid) carries or transports the wave. This medium determines the speed and distance the sound waves travel and how quickly they fade or decay. As sound waves travel, they may be absorbed, reflected, refracted, or diffracted by the surfaces in the space. Therefore, a hearing organism receives a combination of mainly direct and reflected sound waves but may also perceive refracted and diffracted waves depending on the spatial location of the listener in relation to the source of the sound (see Figure 3.1).

Figure 3.1 Behavior of Sound Waves



Each space has its own distinct acoustical characteristics, which humans have learned to recognize. In explaining the relationship between space and sound, ethnomusicologist Andrew Eisenberg states that "At least within the realms of human experience and the social, then, sound is constitutive of space, just as space is constitutive of sound" (2015, 194). In other words, sound helps to delineate spatial boundaries and at the same time the physical characteristics of a space shape the heard sounds. The space determines how sound is perceived since it alters the behavior of the sound waves as they travel through it.

Architectural acoustics considers the architectural characteristics that influence how sound behaves within an enclosed space. Acoustician Leo Beranek describes the acoustics of a space through six principal attributes, namely reverberation time, intimacy, loudness, presence of sound-diffusing surfaces, spatial impression, and early-to-reverberant energy ratio (1992, 28). Although I do not reference them directly, these attributes facilitated my understanding of sound behavior within the musical spaces in the Mondavi Center.

Beranek's first attribute is reverberation time, which in acoustics is the length of time it takes for a sound to decay—as sound waves move through a medium, they become increasingly weak. Reverberation time depends on the size of the space and the reflectivity of the surfaces surrounding it. This explains the careful selection of materials used to build and decorate the inside of a concert hall. In an open outdoor space, there is almost no reverberation time because there are no walls, and the majority of the natural surfaces outside, such as plants and hills, are not significant reflective surfaces; thus, the sound simply diminishes (Beranek 2004, 20). Reflective surfaces send sound waves back into the same medium from which it came, thus extending the reverberation time. Beranek's second attribute "corresponds to how soon after the direct sound the first reflection reaches the listener's ears" (Ibid., 27). He called this attribute "intimacy" because it explains why listeners get the impression that they are physically near the musicians (the sound source) even when they may be far away from the stage. Measured in decibels (dB), Beranek's third attribute refers to loudness or "strength of sound." The degree of loudness is also related to reverberation time and thus varies according to how the sound is absorbed by the shape and surfaces of the space and the number of people inside it (Ibid., 30). The fourth attribute, the presence of sound-diffusing surfaces, relates to the reflection of sound in relation to the various surfaces in the hall. Sound-diffusing surfaces aid the even distribution of

sound in a space. Without this diffusion, the reverberation time would cause sounds to reach listeners unequally and the sound would be perceived differently throughout the space. Spatial impressions, the fifth attribute, depend on the origin of the reflections from surfaces such as the ceiling or the walls, giving the listener an understanding of the size of the space. Beranek describes it by stating that "the listener is being enveloped by the sound" (1992, 32). The sixth attribute, the early-to-reverberant energy ratio, indicates the relation between the direct and the first reflected sound in terms of arrival time (measured from the sound source to a location in a space). This sixth attribute describes the clarity and definition of the perceived sound.

Based on these attributes, Beranek believes any listener can "assess" the architectural acoustics of a space (Ibid., 28). While many other parameters are used by professional acousticians, Beranek's attributes can, in part, explain how each musical space is unique. Every internal and physical detail of an architectural structure affects its acoustics and thus should be considered in light of the space's intended purposes. However, besides the acoustics, these characteristics also influence the interactions and intra-actions among the listeners directly impacting the formation and sustainability of the Energy Transmission Loop during the live music experience.

For musicologist Eric Clarke, listening is not just an auditory act; it is accompanied by a sense of motion that he argues "is an inevitable consequence of the event-detecting nature of the human auditory system" (2005, 63). The act of listening is directly affected by the environment in which the listener is located. Another way of understanding architectural acoustics is through anthropologist Tim Ingold's theory of "correspondence." He explains that correspondence is "the process by which beings or things literally answer to one another over time" (Ingold 2017, 14). A correspondence is a reciprocal exchange, a collaborative effort among things (such as materials)

or beings (such as people)—in this case, inside a musical space. These materials collaborate or correspond with each other and with people to create the acoustics of the musical space. Through this correspondence, every material and individual inside a concert hall diffuses, reflects, and/or absorbs sound. Ingold compares the process of correspondence to musical counterpoint (2021, 186-187). In Ingold's counterpoint, the materials and the people are interrelated yet independently retain their unique characteristics. As sound waves correspond with the materials in these musical spaces, they reach listeners and influence their perception of music. In essence, the musical space is a vessel for the live music experience. Therefore, examining the materials in a musical space does more than explain its acoustics (per Beranek's six attributes); it will also facilitate the understanding of the relationship between the concept of intimacy and space.

The Musical Spaces in the Mondavi Center

For a venue like the Mondavi Center, it is in the interior, musical spaces, which were designed for the presentation of musical events, where the most crucial and vital element of materials—namely, their acoustic properties—is exposed. During my fieldwork at the Mondavi Center, I focused on two musical spaces, namely Jackson Hall and the Vanderhoef Studio Theater (VST). I argue that Jackson Hall and the VST become musical places every time a musical performance takes advantage of the different materials and acoustical properties of the space. In addition, the meaning that ultimately transforms a musical space into a musical place is humans experiencing music in it. Therefore, I refer to Jackson Hall and the VST as musical spaces when writing about their materials and physical characteristics. These two musical spaces were my field sites during the pre-COVID-19 period of my research (September 2019 – March 2020). While the spaces are part of the same building and were constructed by the same

companies, each space is different; not only in their shape and seating capacity, but also in their construction materials, and thus each has specific acoustical characteristics that impact the live music experience.

Jackson Hall

The largest musical space in the Mondavi Center is the Barbara K. and W. Turrentine Jackson Hall (Jackson Hall). Among the most readily identifiable areas within Jackson Hall are the stage and the seating area also known as the audience chamber (see Figure 3.2). Most elements in the stage area are movable and adjustable allowing some adaptability to a limited range of performances. This versatility facilitates the presentation of large ensembles and orchestras as well as soloists while creating a suitable environment for those on stage and projecting the sound toward the audience chamber. The back wall, commonly referred to as the "orchestra shell," can be moved forwards or backwards. On each side of the stage the wooden panels open and close, functioning as doors. Above the stage, two canopies can be moved up or down. The sprung wooden floor is suitable for dancers, and the orchestra pit floor can be raised to extend the stage area forward, closer to the seating area.[74]

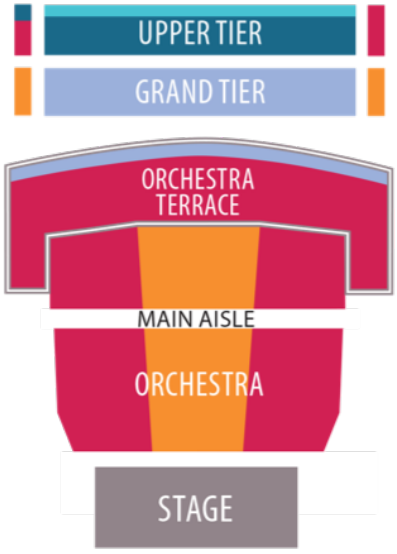
[74] See Balint et al. 2003 for more specific measurements of each element on stage.

Figure 3.2 Jackson Hall - View from the Upper Tier in the Audience Chamber

Photograph source: Regents of the University of California.

While much larger in size than the stage area, the seating area is not as flexible. One thousand eight hundred and one seats are available for patrons. These seats are arranged in rows and grouped into four main sections, namely Orchestra (closest to the stage), Orchestra Terrace (behind the Orchestra section), Grand Tier (above the Orchestra Terrace), and Upper Tier (above the Grand Tier) (see Figure 3.3). The seats cannot be moved as they are bolted down to the floor thus fixing in place the seating area arrangement. The space in between the rows is approximately 2 feet offering ample leg room while seated but insufficient space to move around freely without disturbing others.

Figure 3.3 Jackson Hall - View from the Stage of the Audience Chamber



Jackson Hall's seating map. Source: https://www.mondaviarts.org/events/seating

Photograph source: Regents of the University of California.

Although the stage area can be seen from every seat in the seating area, physically accessing one area from another requires some maneuvering. There are no stairs connecting the stage to the seating area, therefore, an individual would have to take a circuitous route to go from one to the other. Alternatively, an individual could climb the 3'8" apron wall of the proscenium to access the stage from the seating area. This physical delineation is a boundary that divides the audience from the performers confining their movements and limiting their interactions.

Together with the specific arrangement of the stage and seating areas, the combination and specific placement of materials such as wood and sandstone are carefully calculated to form the acoustics of the musical space in Jackson Hall. Majestically framing the stage, the panels of recovered Douglas-fir wood are integral to the design of the Mondavi Center's large concert hall, not only visually but acoustically (see Figure 3.4). Recovered from the bottom of Ruby Lake in

British Columbia, the logs of Douglas-fir had been cut in the late 1800s and left floating in the lake to be picked up by the Howard Logging Co., a common logging practice at that time. However, the company went bankrupt, and the logs just sank to the bottom of the lake where the low temperatures and low oxygen proved to be optimal for the preservation of the wood. In 1997, a Canadian entrepreneur, Desmond Mayne, who had seen the logs while swimming in the lake as a child, convinced the Canadian government to allow him to carefully extract the logs without damaging the lake. After salvaging the logs, Mayne proceeded to sell them. About 50 logs went to the Bacon Veneer Company in Grundy Center, Iowa, who sold them to the BOORA Architects to be used at the Mondavi Center (Kollars 2002).

Figure 3.4 Jackson Hall - Stage

Photograph by author.

According to lead architect Stan Boles, “the finished woodwork” is “reminiscent of the colors and shapes of musical instruments, of the guitars and cellos and violins that soon will be heard in the hall. When the music plays, the notes will echo against walls tall and sturdy and deeply ingrained with an ancient story” (Ibid.). Boles’ statement highlights two important characteristics. One is the narrow vision of the kind of instruments and music styles he anticipated would be played in Jackson Hall (a point I will return to later in the chapter), and the

other is the fact that wood has favorable acoustical properties. Due to its fibrous tissue and density, low frequencies are efficiently absorbed by wooden surfaces (Bucur 2006, 31). Its acoustical properties, along with its malleability, make wood a suitable material for musical instruments and musical spaces. Purchasing and restoring the salvaged wood proved to be not only beneficial for the aesthetics and the acoustics of the hall, but also to the environment as a sustainable practice.

The physical properties of sandstone, such as light weight and low porosity,[75] make it a favorable acoustical material for a concert hall. The sandstone in the Mondavi Center was extracted from quarries in Northern India,[76] and it is the most readily identifiable and iconic material throughout the Center. Besides covering the majority of the building's exterior, the sandstone is a connecting element in the Mondavi Center's design as it is found both inside and out. On the outside, it bears the effect of the region's wide range of weather changes and shelters the interior of the building (see Figure 3.5.1). In the lobby, the sandstone marks the liminality of the space as individuals transition from the outdoors into the concert hall where it functions as a sound diffusing surface that is infused with the colors of nature (see Figures 3.5.2 and 3.5.3).

[75] According to Cox and D'Antonio, sandstone has a porosity value of 0.02-0.06. See Trevor J., Cox, and Peter D'Antonio, *Acoustic Absorbers and Diffusers: Theory, Design and Application*, (Boca Raton, FL: CRC Press, 2017) http://dx.doi.org/10.1201/9781315369211, 196.
[76] Clayton Halliday, interview with the author, May 5, 2017.

Figure 3.5 Mondavi Center Sandstone: Outside, in the Lobby, and in Jackson Hall

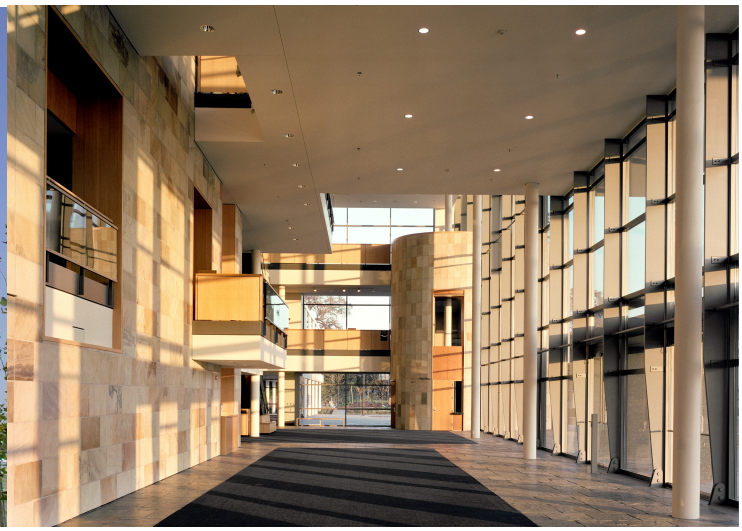


Figure 3.5.1 Outside sandstone wall (left). Figure 3.5.2 Yocha Dehe Grand Lobby sandstone wall (right). Photographs source: Regents of the University of California.

Figure 3.5.3 Jackson Hall sandstone. Photograph by author.

Other relevant elements that affect the acoustics of Jackson Hall include the perforated bottoms of the seats in the audience chamber (see Figure 3.6). When empty, the bottom part of a seat folds into a vertical position facing the stage. This position and the perforations allow the foam material of the cushion part of the seat to absorb sound, simulating the presence of a person when seated. There is also adjustable acoustical drapery close to the ceiling and around Jackson

Hall. This drapery can be adjusted from a control box located backstage that currently contains three configurations, namely "full acoustic, amplified, and acoustic with amplification."[77] This control box was originally programmed by acoustician Ron McKay but his settings were overwritten with new programming to adjust to the new speaker system which was installed in late 2019/early 2020.[78]

Figure 3.6 Jackson Hall - Perforated Seat Bottoms

Photographs by author.

The acoustical characteristics of Jackson Hall are a testament that the hall was designed primarily for the performance of Western classical music. These acoustical characteristics make it an ideal space for acoustic music performances or music that conventionally is performed without electronic amplification, regardless of the style. However, there is an amplification system in Jackson Hall to accommodate music performances that rely on electronic sound reinforcement. This system has been upgraded twice, first in 2008, and then again in 2020. According to Christopher Oca, head stage manager and crew chief, the first upgrade was a

[77] Christopher Oca, personal communication with the author, June 3, 2022.
[78] Ibid.

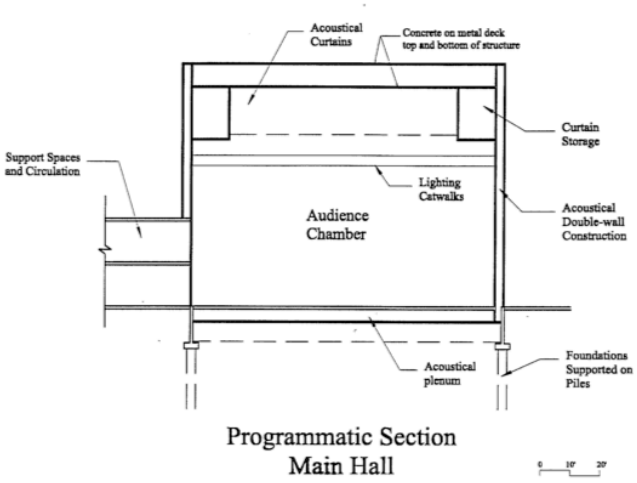
significant improvement as the new system was more consistent in the distribution of the amplified sound. In describing the improvement, Oca recalls how the sound engineer at the time explained it to him. The system that was installed shortly after the Mondavi Center opened in 2002 functioned like a "cannon"; the system that replaced it in 2008 was more like a "sniper rifle."[79] This means that the original sound amplification system blasted the sound into the hall in one or more large beams, rather indiscriminately, and only the seats at the focus of the cannon would hear the sound properly. However, the system that replaced it behaved like a "sniper rifle" distributing properly tuned beams of sound to each seat throughout the audience chamber. The system installed in 2008 was replaced in March 2020 right before the Mondavi Center was closed due to the COVID-19 pandemic. The 2020 system is an upgrade meant to improve the quality of the amplified sound that reaches the audience, in terms of sound clarity and loudness.

Amplified sounds add another layer of complexity to the acoustics of the musical space. While the materials in Jackson Hall are very efficient reflecting and absorbing sound, when the sounds on stage are amplified, they can saturate the reflecting materials in the concert hall and overwhelm the listeners. In order to avoid sound amplification problems during a concert, the sound engineer needs to be familiar not only with the musicians and the music, but also with the space in which the music is played.[80] When musicians travel with their own sound engineer, they commonly plan to have a rehearsal or at least a sound check in the space before the actual performance.

[79] Christopher Oca, interview with the author, May 11, 2021.
[80] Jackson Hall's technical specifications are available online at https://www.mondaviarts.org/sites/default/files/upload/users/mondavi_center_-_jackson_hall_-_technical_specifications_-_november_2021.pdf (Accessed November 18, 2021).

UC Davis architect Clayton Halliday describes the design of Jackson Hall as "a room within a room,"[81] as the hall is a structure completely insulated and suspended inside the Mondavi Center (see Figure 3.7). This design eliminates the intrusion of any external vibrations, such as the ones produced by freight trains, or sounds from cars and airplanes. This isolating effect works in reverse as well; the sounds produced in the hall do not travel beyond the materials of the internal walls allowing both musical spaces within the building to present simultaneous performances.

Figure 3.7 Jackson Hall - "A room within a room"



Source: BOORA Architects. 1998. "UC Davis Center for the Arts."
Detailed Project Program, University of California, Davis, January 1998. (Section 6 Page 17).

Jackson Hall as a Transformative Space

Musicologist and UC Davis former faculty member D. Kern Holoman, who was instrumental in the creation of the Mondavi Center, remarked in an interview that from its conception, the primary purpose of the Mondavi Center, and more specifically Jackson Hall, was

[81] Clayton Halliday, interview with the author, May 5, 2017.

to have an acoustically suitable space for the performance of Western classical music.[82] Yet, Western classical music is not the only music style performed in Jackson Hall. The fact that the hall was being optimized for orchestral music is not a secret, and many of my interviewees referenced either the suitability or limits of the space depending on the music style they were to experience there. In this section, I examine three concerts that took place in Jackson Hall during my fieldwork, focusing on the relationship between space and music style, how they influence each other, and ultimately their effect on the live music experience.

A Church

The word *Zamar* is of Hebrew origin, and it means "making music in praise of God."[83] For Trey McLaughlin and The Sounds of Zamar group, Zamar is a representation of what McLaughlin describes as "transforming the atmosphere."[84] This transformation is achieved by the experience that these musicians offer their audience during a live performance. Made up of 20 singers, a drummer, a bass-player, and a keyboardist, The Sounds of Zamar sing gospel and musical theater pieces that McLaughlin arranges. In planning the repertoire for their performance at the Mondavi Center on Sunday, September 29, 2019, McLaughlin explained that he wanted it to be "palatable for people who are not necessarily church people or religious."[85] In other words, reaching and appealing to a general audience is the main reason why he ventures into styles such as musical theater, R&B, and pop.

In the Mondavi Center's Constituent Feedback Report, 19 comments were submitted by McLaughlin's audience, 13 of which conveyed approval and satisfaction with the experience,

[82] D. Kern Holoman, interview with the author, February 23, 2017.
[83] Trey McLaughlin, interview with the author, September 30, 2019. See also Krewson 1945.
[84] Ibid.
[85] Ibid.

praising the event with comments such as “beautiful ambiance!”; “Such amazing talent with a unifying and positive message in their music and presentation!”; and “Great show and energy.” Five of the other six comments describe discomfort caused by the amplified sound. In one of the comments, a patron wrote, “Advise ear-plugs.” Similarly, some of my interviewees indicated to have enjoyed the concert even though they felt the volume level of the sound was overwhelming. One patron told me that this was the first time she had felt something like a religious experience in the Mondavi Center and expressed that because of the performance, “I feel like I just went to church, a non-denominational church.”

Based on my observations, McLaughlin engaged with the audience from the very beginning of the concert; the audience participated with gestures of praise that are conventional in some Christian practices, such as lifting and spreading the arms with the palms facing up, swaying, and vocal emotive interjections such as “alleluia” and “amen.” However, according to McLaughlin, it takes time, “perhaps the first half of the concert,” to get the audience “to loosen up.” In our conversation, McLaughlin mentioned that this amount of time could vary depending on how many people in the audience are familiar with his music. In addition, he remarked that because he performs in churches as well as in performing arts centers (PAC), he is aware of the ways in which performing in a PAC affects the interaction with the audience. He explained how when he goes into an African American church, the audience immediately knows what to do and they are free to do so. However, when those same African Americans are in the audience in a PAC, McLaughlin indicated that he has “to give them permission for them to do what they do.” For McLaughlin, another limitation of the PAC space is not being able to quickly move from the stage to the audience. For example, he described that, in his Mondavi Center concert, for the last song, he typically “walks the audience.” This action, he says, removes the “we are performing

for you aspect" and indicates that he is "with them," as he even offers his microphone to the audience.[86]

Despite the limitations of the space (not being able to walk among the audience) and the issues with the audio (volume level control), McLaughlin and The Sounds of Zamar transformed Jackson Hall's musical space into a musical place akin to a church. As a multisensory participant, I felt, shared, and noticed this transformation when the The Sounds of Zamar musicians performed gospel music. It was during these gospel songs that moments of emotional and cultural connection between the musicians and the audience were created and easily perceived (I wrote about one of these moments in Chapter One). In writing about music and spirituality within the African American worship experience, scholar Melva Wilson Costen emphasizes that music connects "sacred and secular aspects of life" (2004, xvi). The gospel music of McLaughlin and The Sounds of Zamar mediated between sacred and secular through an inclusive process of participation highlighted especially in the sections of call and response. This music making by the audience in dialogue with the musicians during the gospel songs signified belonging and togetherness that imbued the musical space of Jackson Hall with spiritual meaning, transforming it into a musical place of worship.

A Library

On Monday, October 21, 2019, American musician Andrew Bird infused Jackson Hall with his music. Bird's music defies any categorization of styles. As I described in Chapter One, his style is eclectic, displaying elements of jazz, bluegrass, classical, swing, and American and European folk. Such a variety of musical influences brings an element of surprise to Bird's live

[86] Ibid.

music performances that attracts audience members who may want to sit for one song and dance for the next. Regardless, Bird's followers want to experience, in-person, his music making abilities. In this concert, he featured a number of his unconventional musical expressions, such as unorthodox violin sounds, harmonica playing, and even virtuosic whistling. Bird and his accompanying musicians used sound reinforcement during the performance. All of my interviewees that evening commented on the acoustics of Jackson Hall, which apparently enhanced their experience of these unusual musical practices. This sentiment was also reflected in the Mondavi Center's Customer Feedback Report for Bird's concert in which 17 out of 30 people mentioned the quality of the acoustics and the pleasing aesthetic characteristics of the venue. Examples of this feedback include "Acoustics are amazing, show was incredible…"; "Nice place, comfortable seats, good view of stage from all quarters…"; and "Wonderful venue in terms of excellence of entertainment offered, seating, and acoustics."

Overall, I observed that the audience in Bird's concert was subdued and did not display any major body movements such as raising and swaying their arms to the music or dancing. While acoustically the space is well-suited for Bird and his band, it is not perfect in terms of facilitating audience movement. A patron whom I interviewed at the end of the concert stated that Bird should perform in a non-sit-down venue as she is "fidgety" and likes to dance. However, in Jackson Hall, she is not able to fully express her desire to move because she "wants to be considerate with those around her." Another patron described her experience of Bird's concert as "studying the music instead of fully experiencing it… I feel like I am in a library." They both suggested that they would like to have a dance platform in Jackson Hall or would like for Bird to perform in another type of venue. This opinion was also shared by an interviewee

who specifically mentioned that he would like for Bird to perform at The Palms[87] in Winters, CA.

Although Jackson Hall limited the body movements that Andrew Bird's audience could make, my interviewees were satisfied with their experience because the acoustics in the space were favorable to Bird's production. They described how they could hear every sound of every instrument very clearly in each of the pieces. Bird's sound engineer also deserves credit because in a concert with amplified sound, when the sound mix is not right, the sound that reaches the audience is not good regardless of the acoustics of the space. Nonetheless, the feelings of "studying the music" and "being in a library" describe a restrained and distanced listening experience. These feelings underline how the space can dictate the way in which people externalize their reactions to music.

A Surreal Mosh Pit

While Andrew Bird's audience yielded to the limitations of the space, holding back their desire to move, Beach Fossils' audience exploded into movement despite Jackson Hall's forbidding ambiance. I wrote in the first chapter about the collective nature of the behavior of Beach Fossils and their audience during their Jackson Hall performance on February 22, 2020. In this section, I focus on the suitability of the space for the music and its influence on the audience. As I mentioned in that chapter, the Beach Fossils concert was not part of the official program of the Mondavi Center; it was arranged by students (ASUCD) and mainly for students, even though non-students could also purchase tickets. Therefore, unlike the Andrew Bird concert, the majority of the people in the Beach Fossils' audience were UC Davis students.

[87] Located in downtown Winters, CA, approximately 16 miles west of the Mondavi Center, The Palms Playhouse is a venue with a dance floor. See https://www.palmsplayhouse.com more details.

Reflecting on the experience of going to this Beach Fossils concert in the Mondavi Center, the author of a music blog who goes by the name "Cult Leader" wrote on the Concert Cult website blog,

> As I walked up to the venue, everything felt so out of place. Mondavi Center is clearly a theater for classical music, musicals, and other performing arts that are far removed from the music that would be playing here tonight. Everything was pristine and immaculately kept. It was also massive and lined with seats that led right to the stage. I questioned if Beach Fossils was actually going to play here or if this was all some cruel joke. I found a seat in the second row and wondered how this would all play out.[88]

The categorization (or description) of that evening's event differs depending on the perspective of the individual involved, whether a member of the audience, a musician in Beach Fossils, or a Mondavi Center employee. The blogger Cult Leader was not the only one in the audience puzzled by the space. Before the concert began, a first-year student from UC Davis described his lack of comfort with the space by comparing it with being in a space doing something he is not allowed to do. The student said, "I feel that my parents are out of town, and I am in their bedroom." This student's observation echoes Cult Leaders' description of the "pristine and immaculately kept" condition of the space which does not correspond with Beach Fossils' music style.

The musicians of Beach Fossils were also very outspoken about the incongruity of their repertoire and the concert space. Lead singer and guitarist Dustin Payseur opened up by saying, "Y'all know this is a rock show, right? You can stand… fuck… fill in the aisles… let's have fun." This was an invitation that served as validation for those who were already standing and as consent for the rest who were hesitant about doing so. The comments in relation to the space were peppered throughout the concert in between songs. Some of the comments parodied the

[88] Cult Leader, "Beach Fossils @ Mondavi Center 2/22/20," *Concert Cult* (blog), March 12, 2020, http://concertcult.net/tag/beach-fossils/ (Accessed April 25, 2021).

situation by imitating the announcements made by a speaker who would present educational content in a similar setting with phrases such as “Welcome to our TED talk…” “Class in session, let’s go!” Other comments addressed the beauty and acoustics of the space, and how thankful they were for the invitation to play at this concert. On one occasion Payseur told the audience, “You are so far away. The separation here… I wish we could all be (pause) hanging out together.” For Payseur, being on a stage that is high up from the audience creates a barrier to connecting with them at the level that he is accustomed to doing so. Nonetheless, that evening, Dustin Payseur connected with the audience in Jackson Hall. From the very beginning of the concert, he established trust with the audience guiding them on when to sing, when to mosh, and when to turn on their cellular phones’ lights.

Throughout the concert, Beach Fossils transformed the space in Jackson Hall by engaging with the audience. From the moment Beach Fossils walked on the stage and invited the audience to stand until the end, the audience assembled in the front of the orchestra section of Jackson Hall. They danced and created a mosh-pit-like space. For another song, Payseur asked for all the lights in Jackson Hall to be turned off and had the audience use the lights on their cellular phones to illuminate the space—a moment I describe in Chapter One during my analysis of the function of sight in the live music experience. Although now forbidden, matches and cigarette lighters were once used, mostly in pop music concerts, for this effect. However, the cellular phone light is safer and creates the same very calm and intimate atmosphere which the audience appeared to have enjoyed in Jackson Hall that evening.

As a participant-observer, I was amazed by the adaptability of the musicians and the audience. At times I was uneasy that something could go wrong. Jackson Hall was not designed for people to stand so closely together or at such close proximity to the stage. During an informal

conversation with one of the house managers that evening, he voiced his safety concerns. He also admitted that the situation was out of his control. Neither he nor any member of his crew could have effectively made the 500 members of the audience sit down.

The music of Beach Fossils, Andrew Bird, and Trey McLaughlin and The Sounds of Zamar transformed the musical space known as Jackson Hall into three different musical places. Even though the space presented the challenge of not suiting their music style, each musician guided the audience through the transformation of the space into place. The musicians' unique approach to working through the challenge addressed the audience's expectations differently. McLaughlin carefully sought and capitalized on a moment of connection and replicated an experience akin to one found in African American religious worship. The surreal mosh-pit-like behavior enticed by Beach Fossils was the result of the band's ability to transcend the limitations of the space by focusing on their audience and letting them express through physical movement their connection with the music. On the other hand, for Andrew Bird, the acoustic advantages of the space offered an opportunity for him to share with the audience his musical nuances. While Bird's audience appeared pleased, some of those I interviewed expressed their desire to physically engage more with his eccentric sounds and not feel as if they were in a place that resembles a library. Each performance had intimate moments that built up throughout allowing the transformation of the musical space into a musical place for those experiencing the music during that specific time.

Vanderhoef Studio Theater

The Larry & Rosalie Vanderhoef Studio Theatre (VST), next to Jackson Hall, is a very different space. The VST is a black box theatre that holds up to 250 people, much smaller than Jackson Hall. The space is extremely versatile in that both the stage and the seating area can be modified. There is no fixed stage and depending on the configuration of the seating, a member of the audience may be as few as five feet away from the performers. For the VST, the seating configurations are commonly proposed by one of the directors of the Center and mainly designed and implemented by Christopher Oca. When asked about his design process, Oca affirmed that the most important criterion he keeps in mind is adherence to fire codes. He explained that no matter how creative a set up may be, if it doesn't pass fire code then it cannot be used.[89]

During the 2019-2020 season, the three main seating configurations of the VST were the "standard seating," the "Alexander String Quartet seating," and the "cabaret seating." The standard seating is very similar to the Alexander String Quartet seating as they both use risers for the audience to sit while the stage is on the floor; however, the main difference is the set up around the stage. For the Alexander String Quartet seating, the chairs at floor level "wrap" around the stage, while for the standard seating these chairs are all lined up parallel to the stage. Besides the lack of risers, tables are the most distinct feature in the cabaret seating. Each table is decorated with a tablecloth and a battery-operated tea light candle. There are four chairs per table which are set up facing the stage. In most performances with a cabaret seating configuration, there is a temporary bar set up opposite the stage that sells a variety of drinks and snacks. Most members of the audience typically purchase their refreshments before the concert begins, but some do so during the performance.

[89] Christopher Oca, interview with the author, May 11, 2021.

A particular characteristic of the VST is the presence of a glass window wall flanked by panels of wood and with two sliding doors facing north (see Figure 3.8). While there is a heavy curtain that can be closed to cover the window wall, for certain concerts, such as the ones offered by the Alexander String Quartet, the glass is exposed. Acoustically, glass reflects sound waves and due to the thickness of the glass in the VST the transmission of sound is attenuated creating a sound barrier. Furthermore, this type of glass fulfills the functions of a wall delineating the area of the VST, shielding it from external elements, and controlling weather conditions. Due to its properties, the glass transmits natural light during the day, brightening and warming up the studio. Since light passes through glass, it offers two different perspectives depending on the time of day and the side of the glass a person is facing. From the inside, during the day, the glass allows individuals to look outside and appreciate the landscape. At the night concerts, however, from the inside, people can faintly see their reflection in the glass since the outdoor lights illuminate the other side of the glass. From the outside, an individual can see into the VST and easily discern what is happening, whether a performance is about to begin, or if it has ended.

Figure 3.8 Vanderhoef Studio Theater

Photograph source: Regents of the University of California.

The walls adjacent to the window wall are different. When facing the window wall, the wall to the left is covered in mirrors, and the wall to the right has on the top half of the wall the sound-booth window (see Figure 3.8). Like the window wall, the other three walls in the VST also have movable draperies. Cloth absorbs sound waves which dampens the sounds. In addition to the curtains, every pane of glass or panel of wood in the VST is angled to reflect sound. The wooden, sprung, and heated floor and the adjustable reflector panels in the ceiling tracks are also important contributors to the acoustical character and flexibility of the VST.

Vanderhoef Studio Theater as a Transformative Space

Given that the VST's acoustical properties were attended to during its design and construction, throughout the years its function and use as another space for audience and artists

to gather for performances has fluctuated. As I did for Jackson Hall, in this section, I examine three concerts of different music styles that took place in the VST during my fieldwork. The combination of the design elements of the VST create what could be described as an intimate space, a description that most of my interviewees referenced in their comments to me. However, acoustically the VST presents challenges. The surfaces can be either very reflective creating too much sound reverberation as when the walls are exposed, or very absorptive with curtains which dampen the sound. Therefore, many musicians rely on electronic amplification to compensate for the VST's limited means for tuning the acoustics. For ensembles without electronic amplification, such as the Alexander String Quartet, exposing the glass window wall provides a hard surface to reflect the soundwaves, creating more reverberation in their sound.

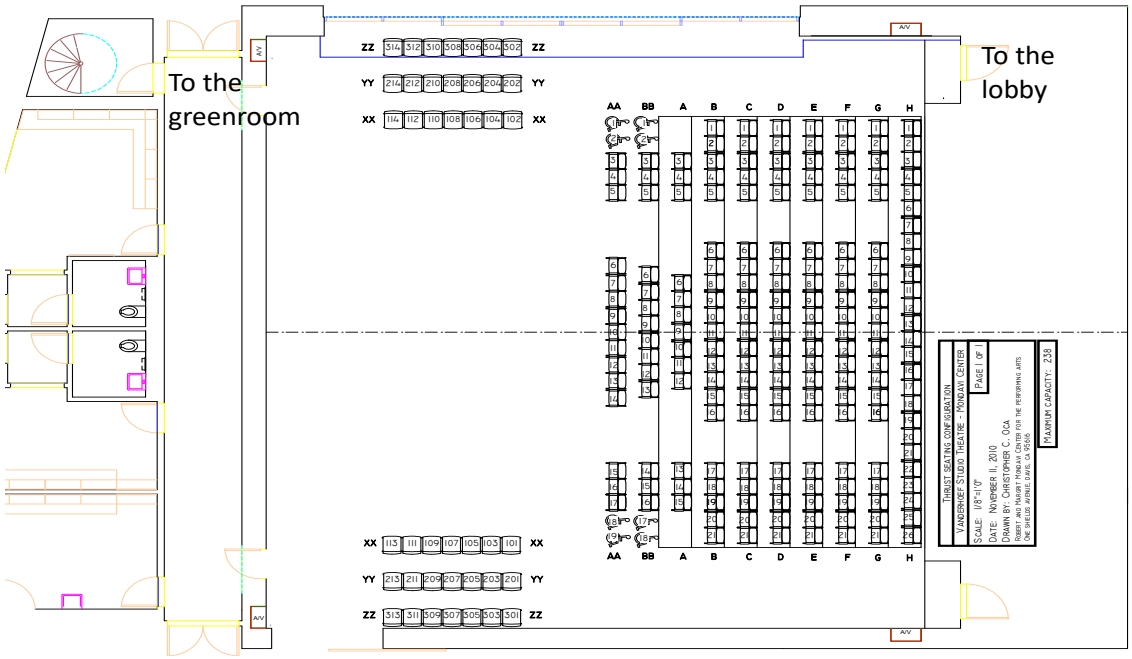
A Lecture Hall

Out of all the artists who performed at the Mondavi Center during my fieldwork year, the Alexander String Quartet (ASQ) offered the most concerts. The ASQ has been part of the Mondavi Center programming for many years, and although they have played in Jackson Hall, they prefer playing in the VST. ASQ's violinist Fred Lifsitz told me that there are many reasons why he likes the VST; one is that he likes being close to the audience, and another is the window wall. For ASQ concerts, the audience sits on risers, and they have easy access to the area set up as a stage in front of the risers. In regard to the window wall, Lifsitz expressed, "what is so beautiful about that room [VST] is that it doesn't separate you from what we love about Davis, which is in the campus, which is nature." Lifsitz talked to me about the process of deciding on the configuration of the VST for the ASQ concerts: "we tried it with the curtains closed and opened… We tried it with the shell, with platform and with no platform." Having the curtains

open, he explained, “livened” the sound as the glass reflects it and for the afternoon concerts the natural light brightens the room. The curtains remain opened for the 7pm concert since the glass is needed as a sound reflecting surface.[90]

Throughout the years the “Alexander String Quartet configuration” has evolved. In addition to deciding whether to close the curtains, the placing of the stage area and the risers has also changed (see Figures 3.9 and 3.10). Christopher Oca described how at first the wall covered in mirrors was behind the ASQ which meant that the audience could see themselves. Members of the audience complained stating that seeing themselves and others in the mirror was very distracting. Another modification is the chairs placed on the floor in the area between the risers and the stage. The biggest advantage to the current configuration is that it allocates space for people in wheelchairs.[91]

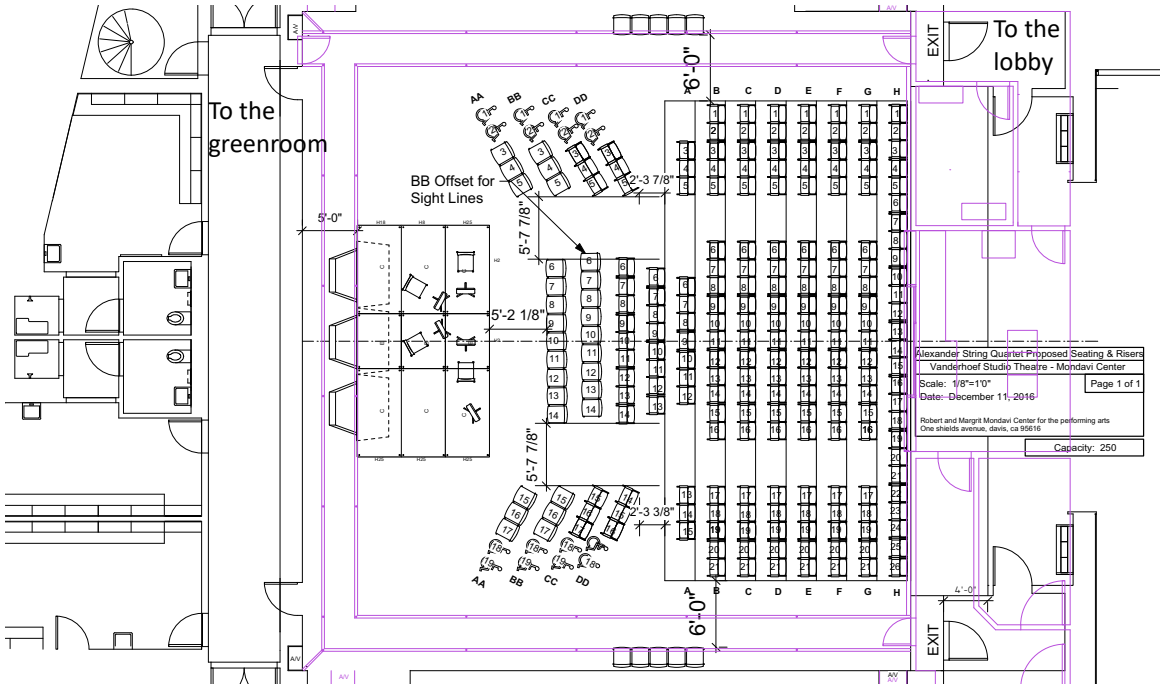
Figure 3.9 VST Original Configuration for the ASQ (2010)



Source: Christopher Oca.

[90] Fred Lifsitz, interview with the author, June 22, 2020.
[91] Christopher Oca, interview with the author, May 11, 2021.

Figure 3.10 VST Latest Configuration for the ASQ (2020)



Source: Christopher Oca.

Being able to see a section of the arboretum and having natural light in the room are great benefits. Natural light is not the only difference between the afternoon and the evening concert of the ASQ. As I explained in Chapter One, the ASQ afternoon concert includes the commentary of musicologist Robert Greenberg. The content shared by Greenberg is educational and entertaining. Nonetheless, the amount of talking surpasses the playing time of the music, which gives the space a lecture-like atmosphere. As one member of the audience described it, "I feel that I am in class." For this interviewee, Greenberg's presentation prevailed over the music, challenging the transformation of the space into a musical place and instead creating a place for educational lectures. That said, based on my interviews and analysis of the Mondavi Center's Constituent Feedback Report, and as I mentioned in Chapter One, the audience appreciates Greenberg's commentary—there were 28 comments about ASQ and only two patrons had

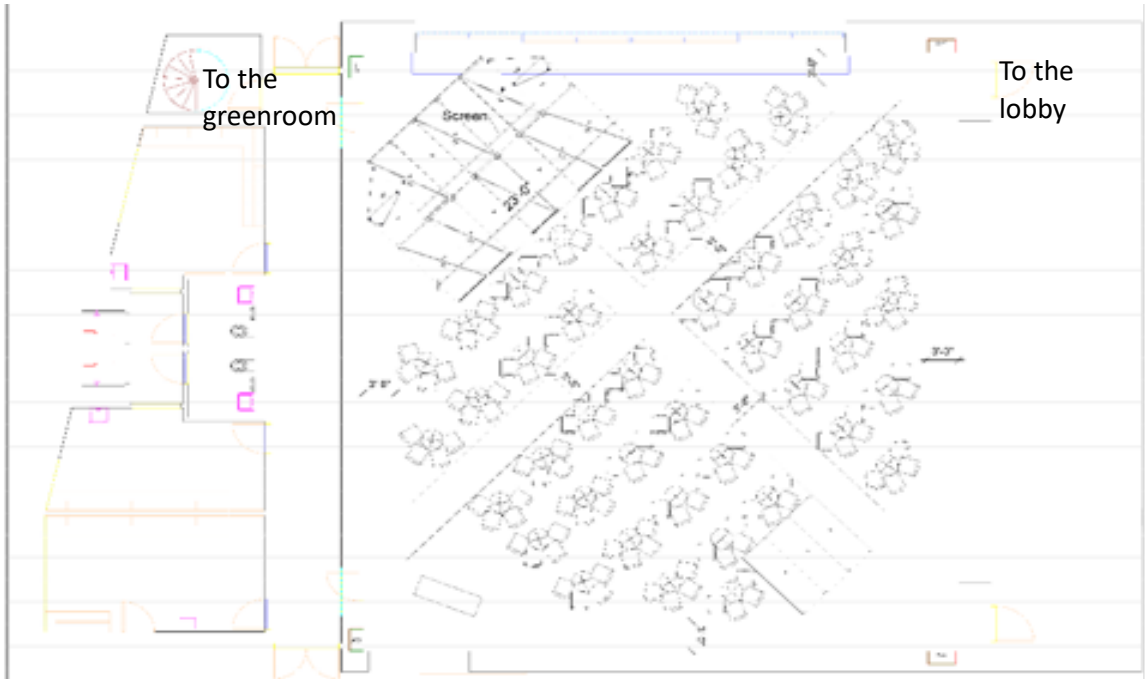
negative observations about Greenberg. Nonetheless, Greenberg's commentary does sound like a lecture and the setup of the room reinforces the classroom atmosphere. Thus, during the ASQ with Robert Greenberg performances, the VST becomes a place to learn about and experience music.

A Jazz Nightclub

The tables, the bar, the lighting, and the stage are arranged to create a space that enhances the live experience of jazz concerts in the VST. For these concerts, the curtains cover all the walls dampening the sound, and the instruments are amplified with microphones, activating the sound amplification system to strengthen the sound. The placement of the speakers around the room is configurable and typically customized for each concert. Similarly, the stage area has also been moved and set in different locations within the space. Reminiscing about the process of finding the best positioning of the stage in the VST, Christopher Oca stated that the main goal was to create a "jazz club feel." At first, in 2008, the stage was in the corner where the mirror and window walls meet (see Figure 3.11). However, this placement did not work well acoustically as the corner walls behind the stage reflected the sound unevenly toward the audience. Then, for the 2010 season, the stage was moved under the control booth window, but this was a problematic configuration due to the location of the audience entrance in relation to the artist entrance (see Figure 3.12). Oca explained that the artists had to walk through the "house" to get to the stage, and even more problematic was accommodating late patrons as they had to walk by the stage to get to their seats. This situation was disruptive and embarrassing for patrons who arrived late to a concert. Finally, since the 2018-2019 season, the stage has been placed against the wall with the covered mirror which is where the artist entrance is located (see

Figure 3.13). The area below the control booth window, is used for the bar.[92] The latest configuration of the room is very functional and conducive to creating the desired jazz club atmosphere for both artists and audience.

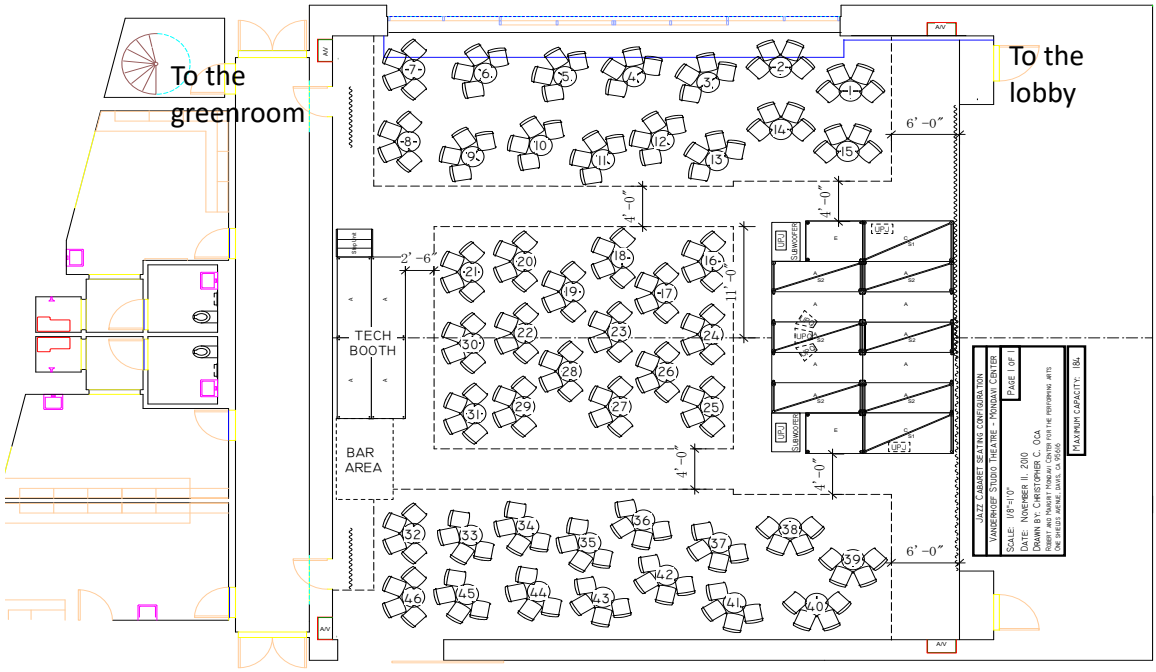
Figure 3.11 VST Original Configuration for Jazz (2008)



Source: Christopher Oca.

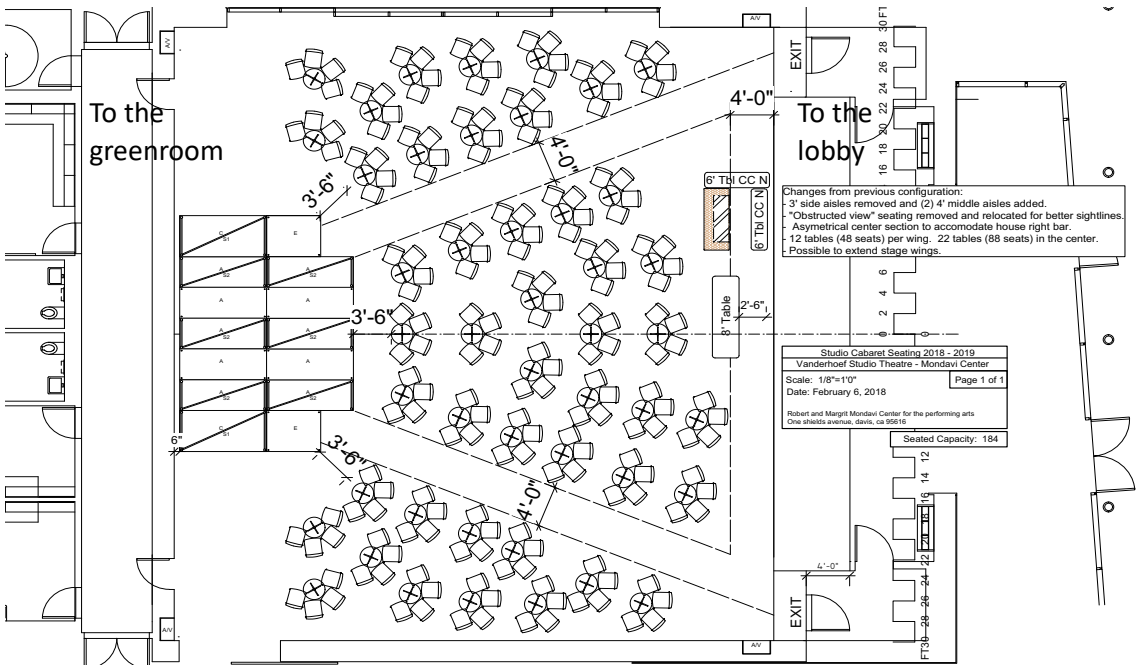
[92] Christopher Oca, interview with the author, May 12, 2021.

Figure 3.12 VST Second Configuration for Jazz (2010)



Source: Christopher Oca.

Figure 3.13 VST Latest Configuration for Jazz (2018)



Source: Christopher Oca.

Artists including jazz pianist Tord Gustavsen liked playing at the VST, mainly because of the quality of the amplification equipment in the room and the excellent piano available for them to play; for Gustavsen, these are key components of a successful concert. During our conversation, Gustavsen explained that not being able to travel with his own instrument means that he is dependent on the venue having a good piano. In reference to the VST, Gustavsen remarked upon the importance of a good sound system due to the "dry" acoustical nature of the room. Overall, he "likes the challenge of bringing the music to life in different kinds of acoustics."[93]

In *Thinking in Jazz,* Paul Berliner (1994) addresses the relationship between the musical space and jazz. He writes about the differences between experiencing a live jazz performance in a concert hall versus a nightclub. The concert hall, he explains, "presents jazz in its . . . most formal setting as art music" (Berliner 1994, 452). This type of jazz concert also suggests expectations for musicians, such as allocated length of a performance, tuned pianos, and good quality acoustics. A downside is that when playing in a concert hall the physical distance between the stage and the audience "makes it difficult for artists to hear the nature of, and indeed may inhibit, audience response. By contrast, nightclubs have the greatest potential for an intimate performer-audience relationship" (Ibid.). Berliner's annotations are useful in understanding the VST as a musical space for jazz. The VST combines the advantages of the concert hall with the intimate nature of the nightclub. The various configuration trials were critical for the Mondavi Center's production personnel in learning about the space and its acoustics allowing them to make recommendations to visiting artists. In addition, Berliner's observations corroborate Gustavsen's comments. For Gustavsen, the advantages of playing at the VST, including quality

[93] Tord Gustavsen, interview with the author, January 20, 2020.

of amplification equipment and musical instrument, set the foundation for him to transform the VST space into a jazz nightclub during his performance.

A Sensory-Friendly Space

On the afternoon of Friday, February 14, 2020, South African *isicathamiya* vocal group Ladysmith Black Mambazo sang in the VST a day prior to their scheduled performance in Jackson Hall. There were neither risers nor tables, only enough chairs for the people who had tickets to the event. The chairs were arranged in a semi-circle of three widely spaced rows. The space among the chairs was left on purpose for anyone in the audience to move around. The amplification was minimal and there were no lighting special effects. There were only four microphones in stands for the singers and two monitor speakers on the ground for them to hear each other, and their cables, taped to the floor, delineated a stage area (see Figure 3.14). All the curtains in the VST were closed and along with the room lighting, the space felt warm and welcoming to me.

Figure 3.14 VST Configuration for Ladysmith Black Mambazo's Sensory-Friendly Performance

Photograph by author.

This kind of event is known in the performing arts industry as a "sensory-friendly performance." Such performances are designed for individuals on the autism spectrum or with other disabilities and needs, as well as their families, to experience the arts. [94] Sensory-friendly performances have been part of the Mondavi Center programming since their 2016-2017 season. Up until March 2020, only three or four sensory-friendly concerts had been offered per season. The performances were curated by Ruth Rosenberg, director of arts education and artist engagement, who along with Marlene Freid, audience service manager, and other members of the Mondavi Center staff worked on negotiating with the artists, preparing the space, and

[94] See, for example, the Kennedy Center in Washington DC (https://www.kennedy-center.org/visit/accessibility/sensory/); the Growing Stage in Netcong, NJ (https://growingstage.com/sensory-friendly-performances/); and La Habra Depot Theater in La Habra, CA (https://thephantomprojectstheatre.com) among others.

informing both artists and audience about expectations. Throughout the years these concerts were offered, they occurred in Jackson Hall, the Yocha Dehe Grand Lobby, and the VST, and their set up morphed. During an interview, Rosenberg described that at first, they had an area with rugs for the children to sit on in front of the performers, but the children didn't use them because they wanted to be close to their parents. The rugs also acted as a gulf that separated the artists from the audience and this was the opposite intention. Regarding expectations, Rosenberg emphasized that the premise for these concerts was that "there is no 'no.'"[95] In other words, the audience was allowed to move, sit, and even talk if they so desire. This is the reason why, in talking about the curating process, Rosenberg explained that she and her team approached artists already scheduled to performed at the Mondavi Center and who they "thought were going to connect with this population."[96] These sensory-friendly performances were not advertised as widely as regular performances. According to Rosenberg, the information was sent to organizations that support youth and adults with disabilities which operate in the surrounding communities.[97] I found out about the concerts in my conversations with Rosenberg, who also provided me with a ticket to attend. This was my first time in a sensory-friendly concert and unfortunately, due to the COVID-19 pandemic, Ladysmith Black Mambazo's was the only one of the series during the 2019-2020 season that actually happened.

The artists who were available and agreed to offer a sensory-friendly performance added the event to their already scheduled performance(s) at the Mondavi Center. In the case of Ladysmith Black Mambazo, the group was to perform in Jackson Hall on Saturday February 15, 2020, a day after their sensory-friendly performance at the VST. There were more differences

[95] Ruth Rosenberg, interview with the author, May 26, 2021.
[96] Ibid.
[97] Ibid.

than similarities between the two performances. The *isicathamiya* singing style, the look of the singers' attire, and the enthusiasm they expressed through their singing and dancing were part of both performances. The most significant differences between the performances were the space and the audience. While Ladysmith Black Mambazo invited members of the audience to join them on stage in Jackson Hall, this did not happen at their VST concert. The children from the audience at the VST spontaneously approached and danced with the musicians as there was no physical separation between them. In return, the musicians welcomed and encouraged the children and the parents who approached them to dance along. The physical act of dancing with the singers appeared to be an uninhibited reflex of the children to express their immersion in the musical experience and share their energy with the musicians. For all involved, the barrierless space facilitated this experience which was a representation of intimacy at its maximum expression.

Although I did not have the opportunity to interview any members of Ladysmith Black Mambazo, Rosenberg informed me that during the performance, the manager of Mambazo's group communicated with her to praise the experience and acknowledge his interest in offering a similar format in South Africa.[98] A formal stage is not a requirement for *isicathamiya*, the male choral music style with which Ladysmith Black Mambazo is associated. In tracing the history of *isicathamiya*, ethnomusicologist Veit Erlmann explains that this music style developed in the basements of hostels in which Zulu migrant workers stayed while working in the gold mines of South Africa. The workers, who were all males, formed choirs and created competitions that blended song and dance. As the popularity of the competitions increased, they moved into venues with a stage (Erlmann 1990, 210-214). Some other musical characteristics of the

[98] Ibid.

isicathamiya style found in the music of Ladysmith Black Mambazo are: the use of four-part harmonic arrangements, the changes in texture associated with call-and-response between the lead singer and the ensemble (sometimes the audience is invited to respond), the choreographic movements of the singers, and the socially conscious lyrics.

Founded and led by Joseph Shabalala in the 1960s, Ladysmith Black Mambazo gained international recognition after their work on *Graceland,* an album made by American musician Paul Simon (See Meintjes's discussion on the politics behind the production of this album [Meintjes 1990]). The sociopolitical complexities of isicathamiya are beyond the scope of this dissertation, but it is those complexities that make the style a symbol of Zulu identity and a key component in the reconstruction of the Zulu homeland (Erlmann 1996, 16; Meintjes 2003, 181). This meaning in turn fuels the singers to generate emotionally powerful performances. Ladysmith Black Mambazo's music style, the openness of the musicians, and the suitability of the space were the right combination to create a palpable Energy Transmission Loop with this particular audience.

For the audience at the VST, the openness of the space and the care taken controlling the loudness of the sound and the brightness of the lights facilitated the music experience. As a member of the audience wrote in the Constituent Feedback Report,

> We really appreciate that you offer sensory-friendly performances. Our daughter loves going to live performances, but her body can be so unpredictable and unruly, we often aren't brave enough to give her the opportunity to go. It is so nice to be able to go to an event, as a family, and not be worried that she will disturb other patrons or that all eyes will be on us. And Ladysmith Black Mambazo, was so welcoming to everyone in the audience. We loved it!

Another patron wrote, "This one was perfect for my child. I deeply appreciated that she and her friend could make noise and rock in their seats and use earplugs. It was relaxing for me as a parent not to have to spend the performance co-regulating her to behave in a still and quiet way

in a performance space." These comments demonstrate that the effect of the experience had not only reached the children but also their families. Rosenberg remarked that seeing the families being involved has also been a rewarding aspect of providing the Sensory-Friendly Series.[99] Moreover, the feedback highlights the relevance of the suitability of the space for this audience to experience Ladysmith Black Mambazo's music which transformed the VST into a sensory-friendly musical place.

The physical characteristics of the VST provide the space with the flexibility to accommodate performances of different music styles. The configuration of the seating, the lighting, and the presence (or not) of a bar, signal to all participants the type of behavior expected from them in each of those performances. In the above examples associated with the VST, the transformation from musical space into musical place was developed. On each occasion, whether as a lecture hall, a jazz nightclub, or a sensory-friendly venue, the producers, performers, and audiences were able to use the space to create an appropriate musical ambience.

The flexible nature of the use of the space known as the VST is such that during the COVID-19 pandemic, when music venues had to close to adhere the government mandate, the VST was transformed to serve a very different, unprecedented, yet novel purpose. On January 6, 2021, almost eleven months since the abrupt end of my fieldwork due to the COVID-19 pandemic, I returned to the Mondavi Center. My return was not for a concert but to be tested for the virus. The Mondavi Center had been shut down since March 11, 2020, and it was repurposed from a performance venue into a COVID-19 testing center as a part of the Healthy Davis Together program—a collaborative initiative between the City of Davis and the University of

[99] Ibid.

California, Davis.[100] As I walked toward the building, memories of my experiences rushed through my head. Then, seeing people wearing masks and plastic face coverings awoke me to the reality: they were not ushers welcoming members of the audience; they were part of the Healthy Davis Together team facilitating COVID-19 testing. I was about to enter a space I knew well but that now served a different purpose.

Instead of being a space conducive for meeting, greeting, and socializing with others, the lobby had lane dividers to guide people through the route and the different checkpoints along the way (see Figure 3.15.1). The path led to the VST. To say that entering the VST for me was surreal is an understatement. All the curtains were drawn back exposing the wood and the glass surfaces. The space was brighter than during the ASQ afternoon concerts. There were neither risers nor round tables with candles. Instead, rectangular tables were set up in rows delineating the areas through which I could move. The tables held a plexiglass window that acted as a barrier between the individual facilitating the test and the test taker (see Figure 3.15.2). The VST felt rigid and cold to me, yet its new function was also noble and necessary. The space was now a place in which members of the community came to do their part by checking on whether they were putting others at risk.

[100] Several news outlets wrote about Healthy Davis Together. This is the link for an article in the *New York Times,* https://www.nytimes.com/2021/01/30/us/college-coronavirus-california.html

Figure 3.15 Yocha Dehe Grand Lobby and VST Set Up for COVID-19 Testing

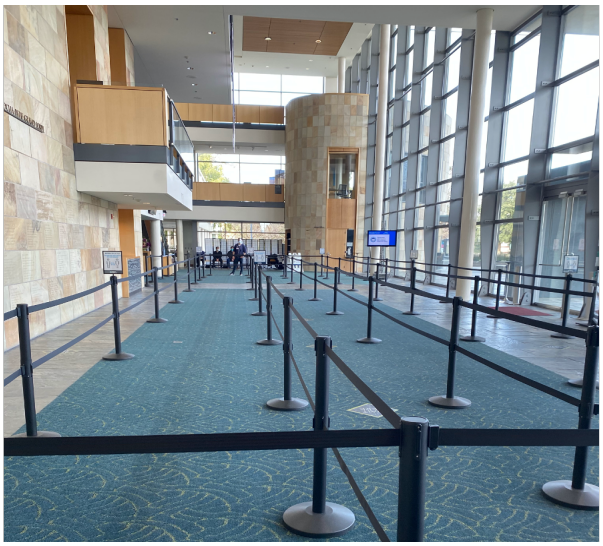


Figure 3.15.1 Yocha Dehe Grand Lobby set up before entering the COVID-19 testing (left).
Figure 3.15.2 VST set up as a COVID-19 testing center (right). Photographs by author.

Intimacy and the Musical Space

Jackson Hall and the Vanderhoef Studio Theater, the two musical spaces where I conducted my fieldwork in the Mondavi Center, have acoustic and aesthetic characteristics that engage the senses of the listeners in different ways providing a variety of experiences. One word commonly used by my interviewees to describe their experience in these spaces was intimacy. As referenced at the beginning of this chapter, for acoustician Leo Beranek, intimacy is based on a listener's impression of space which is measured through the initial-time-delay-gap that occurs between direct and early reflected sounds in reaching the listener (2004, 27). However, this correlation between the initial-time-delay-gap and intimacy has been challenged by scholars such as architect Michael Barron who asserts that "Intimacy refers to the degree of identification between the listener and the performance, whether the listener feels acoustically involved or detached from the music" (2010, 43). Nonetheless, Beranek and Barron both consider intimacy as an acoustic characteristic of the space that is essential in connecting the audience with the

musicians. In addition to the acoustic characteristics, there are other elements, such as dim lighting, that engage other senses and potentially cue intimacy.

Within the context of space and place, intimacy is an attribute that describes not only close spatial proximity but also the feeling of trust and surrendering to an experience. This trust is fostered by the artists and members of the audience and facilitated by the space. In describing intimacy, Yi-Fu Tuan explains, "Intimacy between persons does not require knowing the details of each other's life; it glows in moments of true awareness and exchange" (1977, 141). By being physically there and through the act of listening, which as I mentioned in previous chapters involves more than simply hearing, a sense of community is ontologically formed. In *The Nation and the Promise of Friendship: Building Solidarity through Sociability,* behavioral scientist Danny Kaplan (2018) differentiates between public intimacy and collective intimacy. He argues that public intimacy separates or divides groups into insiders and outsiders, while collective intimacy "imagine[s] a unified whole and hence eliminate[s] the very distinction between private and public life" (Kaplan 2018, 87). During a live music performance, sharing the music and the space with other individuals enables collective intimacy, and when this intimacy "glows" it reinforces the transformation of musical space into musical place.

My interviewees regard the VST as an intimate space, mainly due to the close proximity of the artists with the audience. They expressed how much they appreciated being so close to the artists which allowed them to see their facial and bodily expressions while playing. Similarly, artists such as Fred Lifsitz, violinist for the Alexander String Quartet (ASQ), feels that smaller spaces bring him closer to the audience, as if the Quartet is "breaking the barrier" and inviting them into the "conversation" he and the other musicians are having.[101] In theatre, the invisible

[101] Fred Lifsitz, interview with the author, June 22, 2020.

wall that separates performers from their audience is known as the "fourth wall." This imaginary "wall" is a performance convention that assumes the performers cannot see and/or interact with the audience and it is commonly marked by the proscenium. Yet the "barrier" between the musicians and the audience can also be physically broken, and the layout of the VST enables such breaks to happen effortlessly, as it did during Ladysmith Black Mambazo's sensory-friendly performance.

The physical proximity that exists in the VST also enhances the audience's ability to feel the vibrations of the sounds (acoustic and amplified) and affords the musicians the opportunity to look into the eyes of audience members, which is conducive to creating a more intimate connection. Nonetheless, an intimate experience with an artist is also possible in Jackson Hall; in fact, the various acoustical tuning features of the hall are designed to facilitate it. However, regardless of the music style, musicians must employ a different approach and possibly work harder at connecting with the audience, especially for musicians facing away from the audience as in the case of orchestra conductors, and for members of the audience seated significantly farther away from the stage. This is where the personality of the artist, displayed through some of the interactions I mentioned in Chapter One, plays an even more significant role in achieving intimacy with the audience in large spaces such as Jackson Hall. Indeed, some audience members confessed their interest in "experiencing the presence of an artist," which often means observing the body language and how the artist interacts with the audience. Others added that getting "to know" something personal about the artist is a major incentive for attending a live performance, as was the case with Andrew Bird, and likely a determining factor in whether audience members attend future live performances of that artist.

Another characteristic of a space that generates a sense of intimacy is its design. This relationship between intimacy and design was explained to me by a member of the audience during an interview. In our conversation about the concert, I noticed that he described the Mondavi Center as an "intimate space." Asking him to elaborate, he kindly drew my attention to the design of the building. He indicated that as an architect, he thinks of the Mondavi Center as an "intuitive space to navigate." This intuitiveness generates a sense of belonging which, in his opinion, facilitates a sense of intimacy. In other words, individuals visiting the Mondavi Center for the first time should find their way around the space without too much effort. The intuitive design of the space gives patrons a sense of comfort in their ability to locate the restrooms, the elevator, the stairs, and the entrance to the musical spaces. The ushers who work and/or volunteer at the Center are meant to provide patrons with assistance in, among other things, navigating the space. When patrons feel comfortable in a space, they are most likely to feel intimately connected to it.

Sound and space are in constant dialogue, corresponding with each other, and transforming the experience of the listeners. The relationship of the components that form the Mondavi Center's environment make this venue a place in which temporal and spatial boundaries seem to disappear. This relationship allows listeners to potentially reach a level of intimacy and immersion only viable through their live interaction.

Closing Thoughts

Standing near the center of the stage, in a proscenium framed by majestic Douglas-fir wood, Joshua Bell played his violin on the evenings of Saturday, November 2, 2019, and Saturday, February 29, 2020. Dressed in black, and, in contrast to his *Washington Post*-

sponsored experiment described at the beginning of this chapter, with no baseball cap, Bell captivated the attention of 2,645 patrons who paid between $27.50 and $150 to sit in Jackson Hall and listen to him play. Joshua Bell performs in Jackson Hall often, at least once per season. For example, these two concerts were part of the 2019-2020 season. For the first concert he played as a soloist accompanied by a pianist, and the other as a music director and chamber musician with the Academy of St. Martin in the Fields chamber orchestra. On both occasions, Bell was acknowledged with a standing ovation from the audience, a recognition he did not receive in the subway station. Clearly, the space in which Joshua Bell performs has a profound effect on his reception.

In *Music, Sound and Space: Transformations of Public and Private Experience,* Georgina Born asserts that "music and sound can create, mark or reconstruct social and spatial boundaries" (2013, 22). Joshua Bell has played his violin in a subway station and in Jackson Hall. The suitability of Jackson Hall as a musical space, one especially built for the music style that Bell plays, assisted Bell in transforming it into a memorable place associated with the live music experience. People were in Jackson Hall with the intention to listen to Bell. As a musical space, Jackson Hall frames Joshua Bell as a musician to whom one should stop and listen. In the subway station, Bell is just another street musician; it is likely that even his most avid Jackson Hall fans would stop to listen to Bell as they enter a subway station, despite the difference in cost. Bell demonstrated that the transformation of musical space into place is not always achieved. Musicianship is important, valuable, and significant because it is responsible for the sounds produced, but the quality of those sounds is not enough to create a memorable and musical place. In Joshua Bell's case, the privilege of the space proved to be more influential than the music.

Jackson Hall and the VST are spaces that I refer to as musical spaces because they were built and designed to host, frame, and facilitate the experience of music—even though they are not suitable for all musical experiences. These musical spaces transform into musical places when musicians and their audiences gather to experience music in them. Degrees of transformation occurred during each performance I observed in them. Inside each of these musical spaces, the listeners adhered to certain standards of behavior depending on the context. Usually, the space is delineated by a stage, but in some cases, the boundaries between listeners, understood here as audience and performers, are not clearly defined. In essence, in these spaces, listeners have a role to fulfill and a designated area in which to do so. These roles are directly related to the musical style being showcased. As I demonstrate through a variety of examples, the style and the space are indicators of behavioral expectations and modifiers of behavioral actions. Beach Fossils' audience wanted to move freely around their space, and the musicians, from the stage, instigated that behavior; even though Jackson Hall is not an adequate space to accommodate such behavior, they found a way to engage in it. On the other hand, ASQ's audience knows the venue's expectations are that they move as little as possible while ASQ plays, and the space reinforces that expectation. Some members of the Andrew Bird's audience would have liked to have gotten up and danced; however, such behavior was not encouraged by Bird himself. Many of my interviewees who attended Bird's concert confessed to being attracted to the quality of the acoustics and the reputation of the Mondavi Center as being "a safe place." In this context, "safe" refers to a place in which controlled behavior is either displayed or enforced. This sense of safety acknowledges the association of place with pre-established behavior or as Yi-Fu Tuan states, "Place is security, space is freedom" (1977, 3). Jackson Hall and the VST are musical spaces that afford people the opportunity to pause from the daily

routine and imbue them with significance while experiencing music. Through such experiences, listeners transform these musical spaces into musical places.

The focus in the first three chapters of this dissertation has been on live music as it is experienced in person within a performing arts center, more specifically the Mondavi Center in Davis, California. In these three chapters I have illustrated how the Energy Transmission Loop functions within an in-person experience. In Chapter One, I focused on the five basic human senses and explored their significance as indicators of the transmission of energy that enables the Energy Transmission Loop. Understanding the role of the senses as conduits of energy, the second chapter discussed the engagement of the senses through the process of attention. In approaching attention as a process, I proposed that the concepts of engagement and musical entrainment are potential precursors of the process of musical immersion. Within the process of musical immersion, I introduced the level of "musical intra-immersion" as the ultimate expression of the Energy Transmission Loop.

The live music experience can occur in many different spaces. In Chapter Three, I referred to these spaces as "musical spaces." The musical space is the medium in which the Energy Transmission Loop develops and directly influences the musical experience of the listeners—understood as both audience and musicians. In the following chapter, I pivot my examination of such an experience to the digital domain. I will examine three different virtual settings, namely streaming, video games, and virtual reality apps. I analyze how audiences and musicians create, build, and navigate their interactions within such settings.

CHAPTER FOUR: LIVENESS IN THE DIGITAL DOMAIN

On March 11, 2020, with the declaration of COVID-19 as a global pandemic by the World Health Organization,[102] my fieldwork research on the live music experience appeared to have hit a wall. Due to the highly infectious nature of the virus, people were advised to avoid physical proximity and contact with others outside their households, especially in enclosed spaces. In the state of California, as in most places around the globe, this was a government mandate that presented a challenge to everybody's social and professional lives, including the experience of live music performances because all performance venues—from large concert halls to small clubs—had to close, without knowing when they would open again.

This sudden and unexpected prohibition of live music performances accelerated the use and popularity of already developed streaming and virtual reality technologies in the music industry (Denk et al. 2022; Hall 2020). The absence of certainty about when group gatherings would resume and the influx of a variety of virtual music experiences led me to ask, is virtual the new live? However, as I researched music performances that were streamed, staged in video games, and presented through virtual reality (VR) apps, I quickly realized that perhaps this was the wrong question to ask, because it reinforces the use of common reductive descriptors of live versus mediated or live versus virtual. Instead, I resolved to ask, what are the interactions that are important in musical interchanges, and how well or poorly are they created in different situations? What is the importance of liveness in a music performance and consequently in the listening experience? In this chapter, I assess streaming and virtual reality technologies as media for the experience of music. These technologies had been in use before the pandemic but

[102] https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020 (Accessed May 25, 2021).

acquired new prominence and meanings as a result of COVID-19 and will likely influence the future of the live music experience even after the pandemic has receded.

I explore these questions by applying the theoretical framework for thinking about the live music experience that I have developed in this dissertation. I consider representative characteristics such as kinds of interaction, levels of immersion, and manifestations of intimacy that each virtual space provides. Due to ambiguities with the word *real*, which I discuss later in this chapter, I use the word *physical* to refer to the non-virtual world. In a time when technology increasingly facilitates access to musical experiences, understanding the implications, both positive and negative, of this blurring between physical and virtual will clarify the implication of these new approaches to music performance.

In the introduction of this dissertation, I elaborated on the evolution of the concept of liveness and its connection with the emergence of audio recording and broadcasting technologies. I explored how media such as radio and television challenge the use of the word *live* to describe performances that were recorded in front of an audience and transmitted to be listened and watched simultaneously from a different location or asynchronously at a later time. In addition to the aural and visual differences between the live and recorded music experience for the listener, the tangible action of holding the physical recorded media (such as an LP, cassette, or CD), placing it into a machine, and having control over when to listen to a specific piece of music is also removed when listening to the radio or television (Auslander 2012, 4). This sensorial differentiation, which, according to Auslander, maintained live and recorded performances "as discrete, complementary experiences, necessitating no particular effort to distinguish them" (Ibid.), has further lost its pertinence due to technological advances for "on-

demand" availability and for storing music files digitally in small devices or in the invisible and intangible "cloud."

In my study of liveness within the context of performances in the Mondavi Center, I distinguished key characteristics of the live music experience in a physical setting. In the first chapter, deconstructing the audience-performer binary led me to identify three kinds of interactions that occur in a music performance, namely among the performing musicians, between musicians and their audience, and among members of the audience. The concepts of immersion and intimacy are the bases of the second and third chapter, respectively. I argue that in the live music experience in the physical world these concepts are linked with the perception of the time flow of the musical event (immersion) and influenced by the musical space (intimacy).

In this chapter, I continue my exploration of the concept of liveness by venturing into the digital domain while building on the analysis from the previous chapters. I focus on a streamed performance and two virtual reality performances, one in a videogame and the other through a VR headset, that challenge the concept of liveness in the digital domain. Although before the COVID-19 pandemic, musicians had been using the internet for activities such as promoting their image and music, during the pandemic the internet became an important outlet for artists to share their music and connect with listeners. The limitations to interactions with people outside one's household to avoid the spread of the virus forced everyone to figure out how to manipulate technology to connect with others. Those who work in the music industry were challenged to find creative ways to produce and showcase online performances to safely reach audiences. Some artists offered live-streamed performances, often from their homes, while others recorded

their performances and streamed them later.[103] In addition, other digital platforms such as video games and virtual reality spaces grew in popularity as stages for musicians to perform.

Music Streaming Liveness

As early as January 2020, COVID-19 was already a topic of conversation among patrons at some of the concerts in the Mondavi Center. Later that month, the Center posted signs in various places reminding people to wash their hands. People came across as cautious but willing to be there sharing the space with others. On Monday March 9, 2020, two days before the WHO declared COVID-19 a pandemic, I went to see American jazz vocalist Cecile McLorin Salvant perform in Jackson Hall. Attendance was sparse, which allowed for people to sit while maintaining more than six feet of distance from each other throughout the audience chamber. Four days after Salvant's concert, the United States government declared the pandemic a national emergency.[104] In the state of California, the governor had already begun to ban group gatherings of 250 people or more and a series of stay-at-home orders were in place.[105] Children stopped physically going to school and people began working from home. Universities and businesses closed their doors. Sport and music events were cancelled. The limitations on socializing or conducting any activities with others in person turned internet-connected devices into people's offices, schools, book clubs, movie theaters, and any other places where an individual would normally be with other people; the Mondavi Center was no exception.

The 2019-2020 Mondavi Center programming season was scheduled to end on June 7, 2020, with a performance by the Alexander String Quartet (ASQ) of Dmitri Shostakovich's

[103] See Thomas 2020 for a more comprehensive discussion on live streaming.
[104] https://www.cdc.gov/museum/timeline/covid19.html (Accessed May 25, 2021).
[105] https://www.gov.ca.gov/2020/03/12/governor-newsom-issues-new-executive-order-further-enhancing-state-and-local-governments-ability-to-respond-to-covid-19-pandemic/ (Accessed May 25, 2021).

String Quartet No. 14 in F-sharp Major, Op. 142, and No. 15 in E-flat Minor Op. 144, written in 1973 and 1974 respectively. In lieu of the originally scheduled in-person concert, the members of ASQ, after obtaining the required copyright permissions, played and recorded the aforementioned pieces at Kimball Hall in St. Stephen's Episcopal Church in Belvedere, CA. Musicologist Robert Greenberg recorded his commentary from his home. The two recordings were edited and made available on June 5, 2020, to the Mondavi Center's subscribers via the Center's website and posted on YouTube for anyone to watch and/or listen.[106] Attached to the end of the performance are greetings, recorded by violinist Fred Lifsitz and cellist Sandy Wilson from their respective homes. As part of the greeting, Wilson talked about the process of making this particular recording. He mentioned that they sat six feet apart from each other and that it was exhausting for them to play while wearing face masks. It was, he noted, a special occasion because it was the first time in ten weeks that the Quartet had played together in the same room. Wilson continued, highlighting the issue of liveness that lies at the heart of this dissertation: the "two movements in the 14th quartet and certainly the six movements in the 15th are played without a pause," he noted. "We didn't go back and make any fixes, and yes, if you listen and watch really carefully, I am sure you can tell that it was *live* and it was not Memorex."[107]

Wilson's explanation implies a definition of liveness that differs from the ones I have discussed. As mentioned in the introduction of this dissertation, commonly, a recording uses the word *live* to indicate that an audience was present at the time of the recording; furthermore, it is not uncommon for such recordings to be edited. Sometimes audio is selected from a series of live recordings, the best of which are combined to form one solid performance. However, in this

[106] The recording can be found at https://www.youtube.com/watch?v=j6lQ3P0GON0 (Accessed July 21, 2021).
[107] Ibid. See the "Exploring Liveness" section in the introduction of this dissertation for information about the Memorex reference.

case, for Wilson, “live” means unedited, even though parts of the performance were edited to include Greenberg’s commentary. This is why Wilson specifically mentions that there was no pause, meaning no edit, between two of the three movements of Quartet No. 14 or among the six movements of Quartet No. 15. Providing the video of the performance adds a layer of veracity to the liveness of the recording. However, prior to the COVID-19 pandemic, video recordings of music performances are usually referenced as live only when an audience is present during such a recording.

The Mondavi Center streamed the ASQ recording of the Shostakovich’s Quartets in June 2020. Streaming and broadcasting are distinct technologies with similar processes but with different delivery modes (Sakthivel 2020, 20). Generally speaking, streamed content, whether audio and/or video, is transmitted digitally via internet connection (using various internet protocols) and played through a website or a desktop application for a streaming service on a device such as a smartphone, computer, tablet, or TV. By contrast, the signal of content that is broadcast travels from a transmitter as electromagnetic waves that are modulated and decoded by viewers’ receivers via terrestrial lines (analog or digital) or satellites (Ibid., 10). Thus, the word *streaming* is associated with the internet and *broadcasting* with radio and television. Streamed content does not need to be downloaded to be watched or heard; it plays as it progresses using temporary storage in the device from which it is played. There are two types of streamed content, namely on-demand and live streamed. On-demand content has been pre-recorded and it can be streamed by an authorized user at any time. Viewers can select the sections of the content they want to watch/hear at any point in time. The nature of live streaming is similar to live broadcasting in that neither allows the viewer to control the delivery of the content. When a music performance is live-streamed, “all clients will be watching the same content at the same

time" (Ibid., 21). Another way to understand the two types of streamed content is in relation to time, through the concept of synchronicity. A music performance is synchronous when the music is listened to as it is being played (although there is likely to be some time delay). This would be the equivalent of a live-streamed event. On the other hand, a performance is asynchronous when the music is listened to at a time later than when it was originally played. Thus, the ASQ performance was experienced asynchronously by the streaming audience.

In addition to the transmission process, another significant difference between streaming and broadcasting is that most live-streamed events deploy additional software that enables those who join remotely to write and submit comments for other participants, which can be read and responded to either in real time (synchronously) or later (asynchronously). Performing artists may choose to reply during or after the performance. This texting interaction is unlikely to happen during a live broadcast, though thanks to social media platforms such as Twitter, real-time interactions between TV personalities and viewers are gaining popularity on TV shows (see Sørensen 2016). During a live music performance that streams synchronously, the audience may have the opportunity to write and post their feedback and possibly have others read and even react to the post. For the ASQ live music performance that streamed asynchronously in June 2020, the audience only had the opportunity to post comments once the performance was posted on YouTube. In fact, as of July 12, 2021, one person had posted the following comment, "Awesome !! It's not the same as being in the front row at the Vanderhoef [Studio Theater] but this [is] a welcome surprise that brought me a lot of joy. Thank You." A response to this comment reads, "Thanks Jeff! We can't WAIT to return to the VST!!" This communication creates a powerful bond, albeit asynchronous, between the audience member and both artists and venue.

For most solo musicians, to live stream a performance is feasible because all that is required for its transmission is access to a good internet connection and a streaming device such as a cellular phone or a computer with a camera—resources readily available in most of the United States. However, during the pandemic, especially at the beginning, music groups faced a challenge in the inability of their individual members to play within their accustomed physical proximity. To address this challenge, many groups elected to pre-record new tracks, using a click track as an audio reference to keep them in time when recording or playing with others from remote locations. Others, such as the ASQ, did not like using a click track, which limits the flexibility of musical timing which most musicians expect. They found that having one of the musicians pre-record his part and using it as the basis for the others in the quartet to record their parts felt more natural. Regardless, this was a very elaborate process which, according to Fred Lifsitz, took many extra hours of labor for them and for the audio engineer who edited and assembled the parts. In addition, Lifsitz remarked that not being able to see and hear each other synchronously presented many musical challenges. That is why once they played together (distanced and masked) at the St. Stephen's Episcopal Church they continued rehearsing and recording there, in-person, following the protocols and the local guidelines imposed by the government. [108]

Individual audience members interested in listening to a streamed music performance (like performers) also need a device with an internet connection, and in some cases, must pay a fee to gain access through a "paywall." For an end user, the quality or definition of streaming video depends on many different factors, including the quality of the original transmission, the speed of the internet connection of the original and the user, and the processing power of the

[108] Fred Lifsitz, interview with the author, June 22, 2020.

user's device. When the network bandwidth, or the total speed at which data can be transferred over an internet connection (measured in bits per second [bps]), is not enough for the video to stream, or when the device is not capable of storing (caching) or rendering the stream in real time, the device stalls, thereby creating delays (Feamster and Livingood 2020). Internet service providers (ISPs) charge end-users more for higher bandwidths (Nagro, Brooks, and Casey 2022). In some geographic locations, infrastructure limitations constrain an ISP's ability to offer high-speed service. Despite these limitations, during the pandemic, streaming performances provided the opportunity to watch and listen to music performances to those with access to sufficient internet services and appropriate devices.

To maintain their connections with faithful patrons, as the number of people affected by the COVID-19 virus continued to grow, by July 2020 many music venues curated streaming performances for those who had paid for a membership or anyone who would like to watch a performance for a fee. For example, for the 2020-2021 season, which ran from August 2020 until July 2021, the Mondavi Center launched "HomeStage: The Best Seats in Your House." Creating and curating this kind of programming during the pandemic was not an easy task. The Mondavi Center's associate executive director, Jeremy Ganter, elaborated on the different hurdles he and his associates encountered while planning for HomeStage.[109] Ganter explained that they realized early on that streaming a live performance came with risks, such as problems with the various internet connections upon which such programs had to rely. For example, in the middle of a live-streamed interview, an artist lost his connection to the internet. Such a failure was possible even though the Mondavi Center made every effort to harden their own internet connection. The failure cut the session short and was embarrassing for the Center and the artist. After that

[109] Jeremy Ganter, interview with the author, August 25, 2021.

incident, they decided to produce programming featuring only pre-recorded performances. However, only a few of the artists that the Center already had contracted for the season were comfortable with the idea of sending a recording of their material to the Mondavi Center to prepare for streaming. As Ganter explained, "the artists didn't want to give raw footage for the Center to transform it into a performance . . . they didn't want to give up that much control."[110] The Mondavi Center producers' ambitions were also dampened by the realization that not everyone who is part of the Mondavi Center's audience was familiar with or comfortable navigating their way to a performance on the internet. Additionally, Ganter and his team recognized that some of those most familiar with the technology because they used it on a daily basis to perform their jobs were feeling fatigued from spending most of their day in front of their screens and wouldn't want to add another hour to watch a performance.[111]

Keeping all the above considerations in mind, the 2020-2021 HomeStage season featured, among others, four performances by the Alexander String Quartet with Robert Greenberg, and the first was streamed on October 18, 2020. This performance, like the performance that streamed earlier that year in June, and the in-person performances prior to the pandemic that were scheduled at 2pm, maintained a tried-and-true format: Greenberg provided historical context and perspectives about the piece and then the Quartet played the music, all previously recorded. For HomeStage, however, Greenberg pre-recorded his part from his home, and the Quartet played and recorded their performance from the stage at the Vanderhoef Studio Theater without an in-person audience. The musicians sat six feet apart and wore face masks (see Figure 4.1). Once again, during the streaming, the audience did not have the opportunity to use the chat function to express their opinions nor could they post emojis to represent their emotions.

[110] Ibid.
[111] Ibid.

This limitation hindered the development of interactions between audience and musicians and among members of the audience who were not within the same household.

Figure 4.1 Mondavi Center, VST, ASQ HomeStage Performance, October 18, 2020

Robert Greenberg from his home.
Screen captures by author.

ASQ performing with face masks and distant six feet apart.

The interactions that involve the audience, among themselves and with the musicians, influence the live-streamed music experience. In the course of the Fall and Winter quarters of the 2020-2021 academic year, Henry Spiller, professor of ethnomusicology at the University of California, Davis, influenced by my dissertation topic and my ideas about live music,[112] assigned the undergraduate students in his music department class, "Musics of the World," to "watch a live-streamed event in real time, or watch a recording with family or friends in a single location, or watch and/or perform virtually (via YouTube or Zoom) with others." In addition, the students had to report back on their personal experience by writing a brief essay. As one of the teaching assistants for this class, I read the essays of the students in my sections. Although not many students experienced the same event, common themes arose from their observations. Among the most recurring theme was the significance of interacting with other people. One student wrote,

[112] Henry Spiller, personal communication with the author, July 2, 2022.

"Usually, I would listen to recorded music through Spotify or watch videos from YouTube by myself or with my family. However, after experiencing this event I found it to be *more lively* because I was able to somehow share this moment with other people despite the concert being pre-recorded. With the use of a chat box, I was able to give my thoughts as well as read others' thoughts" (italics added). In this case, the performance the student watched was pre-recorded but it was streamed at a specific time which brought an audience together online. For this student, interacting with others in the audience via messaging added liveness to the performance. Another student highlighted the significance of interacting with the artist by writing, "I liked how I was able to hear the artist talk about her songs and the meaning behind the melody and lyrics. As a live stream, I can ask the artist questions about the performance and learn so much more about them." Other students commented on their appreciation for seeing others facial expressions and body movements as it motivated them to move while listening to the music.

Posting and reading comments, seeing facial expressions, and directly asking questions to the musicians are interactions that enhance the live-streamed music experience. These interactions reproduce some of the features of in-person performances and they build and reinforce the connection between members of the audience and the musicians. Live streaming also allows for musicians to expand on the type of interactions they have with their audiences. Musician Mark Daman Thomas has documented how some musicians have live streamed their creative process and provided their audience the opportunity to be involved and contribute to it (Thomas 2020, 88-90). One of Thomas' case studies is the artist Shakka who creates songs based on the materials—including beats, lyrics, visuals, or animation—provided by his followers during his one-hour-long live streams (Ibid., 90). This interaction further blurs audience-musician roles as it deepens their connection by sharing the sense of ownership of the music. The

live-stream platform offers an array of opportunities for musicians and their audiences to bond which broaden the understanding of *live*. As one student insightfully put it, during a live-streamed experience, "'live' is more about people, it is about having someone to watch and interact with you and share the moment."

Roblox Music Liveness

On December 2, 2020, in the throes of the COVID-19 pandemic shutdown, my then 10-year-old son excitedly told me that he and his friends had been to a concert. I was surprised and confused; he had not left the house without me for nine months, everyone had been sheltering in place, schools were offering classes online, and concert venues had been closed since March. Seeing my expression of confusion, he offered to show me a video which he explained had just been posted on YouTube. Without hesitation we opened my laptop and went to YouTube. He proceeded to type "lil nas x holiday roblox"; he then clicked on the video, and we watched. Although there were four songs in Lil Nas X's (LNX) Roblox concert, his song "Holiday" was special to my son because it was a premiere.

Roblox is an online platform that, according to the Roblox website, "enable[s] anyone to imagine, create, and have fun with friends as they explore millions of immersive 3D experiences, all built by a global community of developers."[113] Roblox users join experiences that are programmed by other users. Players participate in these experiences through entities or avatars that each player designs as a virtual self-representation. In addition to programming, users can also develop immersive game worlds which are virtual spaces created for players' avatars. While users can experience Roblox for free, they also can enhance their Roblox experiences with

[113] https://corp.roblox.com (Accessed July 19, 2021).

transactions conducted through a currency called "Robux." As of July 2021, a user could purchase 400 Robux for $4.99. Back in 2021, my son spent part of his allowance on Roblox and used his Robux to purchase features for his avatar such as special accessories, specific actions or moves known as "emotes,"[114] and in-game experiences. For example, having purchased the LNX emotes, my son showed me how his Roblox avatar could replicate some of LNX's characteristic dance moves.

LNX is an American rapper, singer, and songwriter, and his music is a mixture of styles such as hip hop, R&B, and country. LNX's performance of four songs, "Panini," "Old Town Road," "Rodeo," and "Holiday," was 9 minutes and 31 seconds long. Each of the songs was performed in a game world that served as a stage and was developed by Roblox to match the theme of the song (see Figure 4.2); for example, "Holiday" had a winter wonderland and "Old Town Road" a street in an Old West town as backdrops. Although I watched a recording of LNX's performance on YouTube in December, Roblox had originally shown the performance four times over two days, Saturday, November 14, and Sunday, November 15, 2020.[115] In addition, on Friday, November 13, Roblox and LNX hosted a Q & A session and had prepared a behind-the-scenes video that offered a glimpse of the motion-capture technology they used to create the LNX avatar that showed up during the performance.[116] In *The Verge*, an American technology blog-based website founded in 2011, senior editor Jacob Kastrenakes indicated that the four shows in Roblox during that weekend in November accumulated a total of 33 million

[114] In the Merriam-Webster dictionary, *emote* is an intransitive verb that means "to give expression to emotion especially in acting" (*Merriam-Webster.com Dictionary*, s.v. "emote," accessed October 14, 2021, https://www.merriam-webster.com/dictionary/emote). However, in a digital platform, the word *emote* is used as a noun that describes an action or emotion that has been typed or coded and can be expressed through emoticons, emojis, or avatars.
[115] This is the YouTube link to the entire concert https://youtu.be/f12ukZuUwWI (Accessed June 20, 2021).
[116] This is the YouTube link to the Q&A session https://youtu.be/AgCDkwj7ev0 and this one is for the behind-the-scenes video https://youtu.be/VJHP5Co_aE0 (Accessed June 20, 2021).

views (2020). The show has since accrued several other millions of views after it was posted on YouTube on December 1, 2020. While this LNX concert was the first of its kind in Roblox, another online video game platform known as Fortnite had already hosted two music performances, the first in February 2019 featuring EDM producer Marshmello, and the second in April 2020 with rapper Travis Scott.

Figure 4.2 Roblox's Game Worlds for LNX's Songs

Screen captures of the Four Roblox's game worlds corresponding to each of LNX's songs: "Old Town Road" (top left); "Holiday" (top right); "Rodeo" (bottom left); "Panini" (bottom right).
Roblox. 2020. "Explosive Lil Nas X Concert Paves the Way for Bold New Roblox Experiences" *Roblox* (blog), December 15. https://blog.roblox.com/2020/12/explosive-lil-nas-x-concert-paves-way-bold-new-roblox-experiences/ . Screen captures by author.

"Holiday" is a hip hop song in verse-chorus form with characteristic trap beat arrangement techniques, such as prominent hi-hats, deep kick drum, and wobbly bass riff in synthesized instruments. The Roblox video of the song is set in a futuristic world of a snow-

covered wonderland trapped inside a crystal bubble.[117] Throughout the song's lyrics, LNX lauds his journey to stardom, addressing challenges and exposing personality traits that helped him achieve it. The setting, carefully crafted to integrate the celebratory theme of the song with the winter holiday season, is a snowy city decorated with Christmas trees and neatly wrapped presents. As the sound of the wind rushes by, the scene shifts to a snowman wearing sunglasses and a big, dotted smile that looks as if it was made with round pieces of coal. Bells jingle and a floating crystal heart pulsates to the sound of LNX's voice addressing the avatars in the game world—namely, the very real members of this virtual audience. Dressed in a silver-colored Santa suit, LNX shouts out, "Are you guys ready… for the first ever performance of my brand-new single 'Holiday'?! Let's make some noise, let's make it snow! Uh-oh, it looks like we are stuck in this bubble, I'm gonna need your help. Send me some love and we are gonna crack this thing wide open!" The real-world audience responded by sending hearts up and smiley faces from their avatars, and the music begins.

Unlike the other avatars, which were created within the Roblox platform, LNX's avatar is a motion-captured[118] version of the actual singer. In the Roblox stage, LNX's avatar is significantly larger than any other avatar—LNX's avatar looks about 6 feet tall, and the rest of the avatars are roughly 6 inches in height (see Figure 4.3. "Holiday" top right). The recording of LNX's voice and body movements was transferred into Roblox and reproduced onto his avatar, who sings and dances to the beat of his new song. The other avatars, created by Roblox users using Roblox tools, are seen dancing alongside LNX throughout the song. In addition to displaying their avatars' dance moves, the audience in Roblox continued to demonstrate their

[117] This is the YouTube link to the "Holiday" song part of the Roblox concert https://www.youtube.com/watch?v=_XSFFqeyfhg (Accessed June 20, 2021).
[118] Motion capture is a technique that records the movements of people and objects and then transfers the information as data to map and reproduces the movements in another application such as a virtual environment.

excitement by sending up emojis, mainly hearts and smiley faces, from their avatars. The video ends with the bubble bursting at the top, and, along with the sound of glass cracking, LNX announces, "Thank you guys for coming. You are amazing. I had so much fun. I hope you liked 'Holiday' [it] is available now, go give it a listen. Night night."

As in other Roblox game worlds, LNX's performance provided opportunities for avatars to interact with each other. A common display of interaction is reacting to an avatar's moves or emotes. During LNX's Roblox performance, avatars could display specific emotes to which other participants had the option to respond to immediately in Roblox with another move or through emojis. Once a recording of the performance was shared on YouTube, people continued to react to such emotes by posting comments in the chat. For example, at the 2:27 time stamp of the "Holiday" video, an avatar in the audience does the emote known in Roblox as "Dolphin Dance."[119] In Roblox, those who noticed the unique move sent out dolphin shaped emojis and smiley faces through their avatars. Then, in the comment section of the YouTube page that showed the video, people submitted remarks such as "2:27 what she is doing," "2:27 that one girl acting like a dolphin was the best part," and "OMG IM IN THE VIDEO, IM THE GIRL DOING THE DOLPHIN I TOTALLY FORGOT AB THIS." I interpret these comments using the concept that business academic Russell W. Belk calls the "extended self" (1988 and 2013). Belk first introduced this concept in 1988 proposing that physical possessions are an extension of our identity and "markers for individual and collective memory" (2013, 478). Then, in 2013, he evaluated the concept within the digital world expanding it to consider how online behaviors and personas are part of the self in a digital age. Belk's evaluation is based on five digital

[119] According to Roblox Wiki, "Dolphin Dance" costs 100 Robux. Within 10 days of being published in Roblox, the emote became a favorite of 814 users. https://roblox.fandom.com/wiki/Catalog:Dolphin_Dance (Accessed August 21, 2021).

dimensions, namely dematerialization, re-embodiment, sharing, co-construction of self, and distributed memory (2013). Through these dimensions, Belk determines that "In the digital world, the self is now extended into avatars, broadly construed, with which we identify strongly, and which can affect our offline behavior and sense of self" (2013, 490). Belk is arguing that individuals' identity in a game world is tied to their avatar and that what they do in a game world through their avatar influences their behavior in the physical world. Thus, even though the comments are about the dance moves executed by an avatar, such an avatar is an extension of its creator.

Game designer Mirjam Eladhari describes three different stages that represent a player's identity as experienced in game worlds. The first is identification with an avatar which means that the player is aware of his own self in the real world as a person separate from what is happening in the game world. In this first stage, the player manipulates the moves of the avatar as if it were a puppet. In the second stage, the avatar becomes a character with a "personality" and moves in a manner representative of the player and acts as an extension of the player's self. The distinction between character and player does not exist in the third stage; the character thus evolves into a persona. For Eladhari, these three stages are progressive levels of immersion, from avatar to character to persona, that a player may experience in a game world (2007, 174). Immersion for gamers refers to a sense of absorption in relation to the game. Scholars of game studies MacCallum and Parsler affirm that "immersion involves a loss of self by the player, who then 'becomes' their character" (2008, 228). This immersion is similar to the concept of musical immersion I described in Chapter Two in which the individual "becomes" music when immersed in a musical performance. Both Eladhari's and Belk's theories about virtual selves facilitate the understanding of digital representations in game worlds. Whether an avatar, character, or

persona, these virtual embodiments are extensions of their human creators. In the LNX Roblox concert, the characters remained active moving around and dancing; I interpreted this activity as an expression of approval of the concert; and if they were an extension of their creators' selves, it would mean that the creators, too, are having a positive experience.

In a Roblox performance, there is another level of artist-audience interaction and connection. While the avatars of the audience moved and interacted synchronously (within the game world), LNX's avatar's moves had been previously recorded. LNX was animated digitally with motion-capture technology which means that he performed in advance and his movements were recorded and later rendered into the digital worlds or stages Roblox had created. This explains why LNX's avatar "stepped" on some of the audience's avatars. This act elicited comments of excitement from some YouTube users and a heart emoticon from LNX (see Figure 4.3). These comments demonstrate the effect that experiencing an interaction with an artist has on an audience even when the artist is represented by an avatar whose presence has been pre-recorded. The only audience LNX had while recording his movements were those assisting in the recording. This means that there was no Energy Transmission Loop created between the artist and his audience at the moment of the recording. In other words, audience reactions had no influence on and did not affect LNX during the recording. While I cannot confirm whether or not the audience was aware of the asynchronous nature of LNX's participation, it seems likely that more avatars would have sought to be stepped on by LNX's avatar if the opportunity had presented itself. Thus, I argue that had LNX performed synchronously, and his avatar had been capable of interacting with the audience's avatars, an Energy Transmission Loop could have been formed and completed just as it might during an in-person live music experience.

Figure 4.3 Comment Posted on YouTube by a Member of LNX's Audience

Screenshot of comment posted on YouTube about LNX's avatar stepping on an audience member's avatar. As of August 26, 2021, the comment had received 496 replies, 20,000 "likes" or thumbs up, and one heart from LNX. Screen capture by author.

LNX offered other opportunities for his audience to prepare for the concert experience. These opportunities were a pre-show Q & A session, exclusive behind the scenes footage of his motion-capture rehearsals, and an in-game scavenger hunt in which the players had the chance to unlock an LNX emote. A couple of weeks after the event, LNX posted the video of the complete Roblox performance on his own YouTube channel which as of August 15, 2021, had been viewed almost six million times. On a separate post, LNX's Roblox performance of his new single "Holiday" had more than four and a half million views after being on YouTube since December 1, 2020. Each post had over 31,000 comments. The first comment was by the artist himself asking, "DO U GUYS THINK WE SHOULD DO ONE MORE CONCERT?? 🤔 ALSO HOLIDAY VIDEO OUT NOW: https://youtu.be/9vMLTcftlyI" As of August 15, 2021, this comment had received 24,000 likes.

LNX has 15.1 million subscribers to his YouTube channel (as of August 15, 2021). By posting the videos of his Roblox performance on YouTube, LNX shared the experience not only with those who participated in the concert but also with other fans who may not be Roblox users. In addition, he created another avenue for interacting with his followers as well as for his

followers to interact with one another. For the audience, these kinds of artist-audience interactions are potentially as memorable as those that occur during an in-person concert, especially if the artists, or someone who manages their account, respond to some of the fans' comments. These responses reinforce the artist-audience connection already achieved through the music and I argue that they generate what I call an Energy Transmission Spiral, a modified version of the Energy Transmission Loop, which I will illustrate after the following case study.

Having enjoyed the LNX Roblox performance, my son was looking forward to another Roblox music experience. One day, in early September 2021, while playing in Roblox, my son found out that another artist was going to offer a performance through the gaming platform. This time, it was the pop rock duo from Columbus, Ohio, Twenty Øne Piløts.[120] Although neither my son nor I had ever heard their music, he notified me right away about the event and we planned to experience it together, which we did on the afternoon of September 17, 2021. Like LNX, the duo pre-recorded their performance using motion-capture technology. The format for the Twenty Øne Piløts Roblox performance was also very similar to LNX's. There was a pre-performance Q & A with the artists and a scavenger hunt for Roblox players. The show lasted roughly 21 minutes and Roblox repeated it hourly from Friday September 17, 2021, at 4 pm PST through Sunday September 19 providing many opportunities for Roblox users around the world to participate in the experience. Twenty Øne Piløts performed five songs,[121] and each song had its own game world. However, there was not a pre-determined order for the five songs; rather, the order was determined by the Roblox players through instantaneous voting every time the event had begun. Giving the audience the ability to control the setlist sequence is a form of interaction.

[120] Formed in 2009, Tyler Joseph and Josh Dun are the current members of Twenty Øne Piløts.
[121] The songs were: "Stressed Out" from the album *Blurryface* (2015); "Heathens" from the soundtrack of the movie *Suicide Squad* (2016); "Car Radio" from the album *Regional at Best* (2014); and "The Outside" and "Saturday" from the album *Scaled and Icy* (2021).

As it was for LNX, expanding their audience was a goal for Twenty Øne Piløts in producing this performance for Roblox. The duo strategically launched the event to coincide with their first in-person tour since the official start of the pandemic in March 2020. Both artists, LNX and Twenty Øne Piløts, are part of the Warner Music Group (WMG), which partnered with Roblox to create these music experiences in the video gaming platform. Reflecting on the importance of this partnership, WMG Corp. Digital Chief Oana Ruxandra was quoted in the *Wall Street Journal* stating that "Our lives will be physical and digital at the same time and a lot of our experiences will be gamified" (Steele and Needleman 2021). Ruxandra's statement led me to evaluate how the Energy Transmission Loop that develops between musicians and their audience in a concert in the physical world is affected by this simultaneity.

As a platform, Roblox offers a virtual space for the audience-musician interaction to be cultivated in the digital domain. In this virtual space, the Energy Transmission Loop is transformed into a spiral, which I call "Energy Transmission Spiral," because it has the potential to continue to be generated asynchronously (see Figure 4.4). The interaction generates energy as follows: the first point of contact between musicians and audience occurs when the musicians' pre-recorded physical performance is translated into a virtual game world in which they are avatars. The audience members, through their representative avatars in the game world, feed off the energy of the performance, and generate their own. During the event, the audience demonstrates their engagement with and expresses their emotions to the artists with reactions such as emojis, emotes, and messages. These reactions are a type of energy currency that artists can capitalize on when watching the event at a time of their choosing. Once the performance is over, in a way that is similar to what often happens after a performance in the physical world, the audience may seek ways to continue listening to the musicians. My son and I, for example, after

the Twenty Øne Piløts' Roblox experience, began listening to their music on Spotify and YouTube. Through the virtual music experience in Roblox, we were introduced to Twenty Øne Piløts and their music. Having enjoyed such an experience, we then continued to remember it by talking about our favorite moments while listening to audio recordings of the duo's music. This is something we did not do before their Roblox event as we had never even heard of them. In essence, through the Roblox experience, Twenty Øne Piløts effectively connected and recruited at least two more followers.

Figure 4.4 Energy Transmission Loop and Energy Transmission Spiral

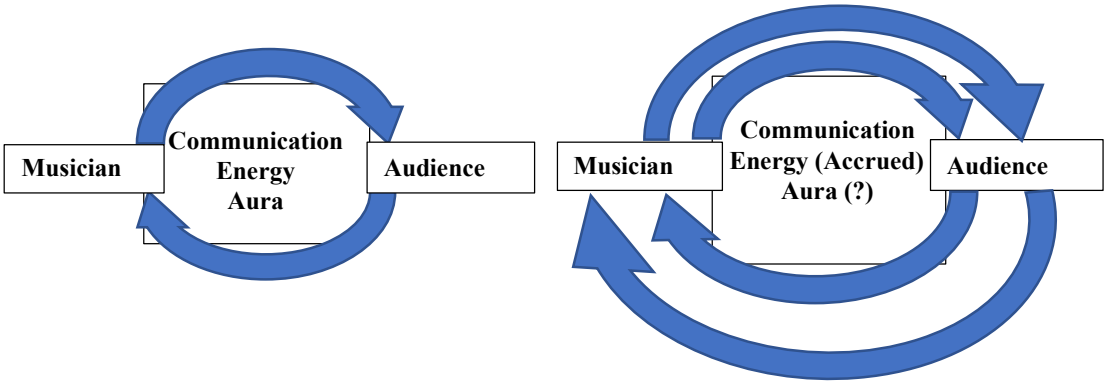


Figure 4.4.1 In an in-person live music experience (Loop). Figure 4.4.2 In a Roblox music experience (Spiral).

The Energy Transmission Spiral created during the Roblox music experience is analogous to the Energy Transmission Loop of the in-person live music experience. They are similar in that they represent energy generated out of the musician-audience interaction and that musical immersion[122] can be achieved individually (level 1) and possibly within a group of individuals (level 2). Yet, the Energy Transmission Loop and the Energy Transmission Spiral are

[122] In Chapter Two, I introduced and explained the three levels of musical immersion, namely musical immersion within the individual (level 1), musical immersion within a group of individuals (level 2), and musical intra-immersion (level 3).

different due to the spatial-temporal characteristics in which each develops. Experiencing music in Roblox can happen through an avatar or as a non-virtual individual bystander. Based on the users' stage of identity with their avatar, they may feel excitement that can be reflected through the avatar's actions in the game, which may incite other creators to alter the movements of their avatars, a type of what I consider a virtual behavioral contagion. This behavior generates a form of energy exchanged among the virtual audience that could also lead to musical immersion within a group of individuals (level 2), albeit created through their avatars. Since the musicians cannot control their avatars to react synchronously to the avatar audience, their interaction is limited to typing comments on the chat function of the gaming platform. The asynchronicity of the interaction impedes the development of musical intra-immersion (level 3). However, this third level of musical immersion which can be experienced in an in-person live music performance may develop in a different form in this type of virtual setting. It is possible that some gamers who are also infatuated with the artist, may feel more connected with the artist and the other gamers creating moments that feel similar to musical intra-immersion.

In a live music experience musicians and artists collectively share the musical space and thus their senses are affected by the same environmental factors. While in an in-person concert, the live musician-audience interaction generates and potentially completes an Energy Transmission Loop, there are mechanisms that might also enable Energy Transmission Spirals. These Spirals can be initiated or triggered within the Loop but might continue to develop after the performance. For example, the Constituent Feedback Report and the reports filled out by the members of the MCAAC, both invite audience members to think about and possibly relive moments from the performance after it is over. The Spiral will gain strength if the communication continues with a response, preferably by the artist (a response by the venue could

also be effective as was the case in the ASQ streaming mentioned in the previous section). Just as my son and I continued listening to Twenty Øne Piløts after their performance in Roblox, Mondavi Center's audience members often purchase the music of an artist in the lobby after that artist's performance. Additionally, people may search online for that artist's music and encounter the possibility of writing about their Mondavi Center experience which could then generate a virtual behavioral contagion in the form of written exchange based on the shared like (or dislike) of the music. Regardless, whether in-person or virtual, Spirals are asynchronous. They can be understood as an outgrowth of the live music experience, one that I would not have thought of had I not ventured into researching the experience of music in virtual spaces.

Oculus Quest 2 Liveness

On the evening of Wednesday August 18, 2021, dressed in my pajamas, I experienced Larry Stephenson and his bluegrass band in concert. I was ready and entered the venue ten minutes before the show. A few others were in the lobby; I could hear some young voices talking very loudly. The nonsense chatter annoyed me and since I didn't want to miss a single note, I decided to leave the lobby and enter the hall. It was quiet. A sign on the stage announced the time that the show would begin. Since there was no assigned seating, I explored the space as much as I could before settling in. There were three seating areas around the stage, namely left, right, and center and each had a balcony. Promptly at the top of the hour Stephenson and his band began to play. After the first song, I figured out how to get to the center balcony. From where I was sitting on the balcony, I could see two other individuals in the balcony with me. They appeared to be together having fun at the concert. Their heads were bobbing, and their hands were tapping to the beat of the music. Not wanting to distract them and respecting their

space, I didn't talk to them. However, we connected by throwing confetti and showing thumbs up while the band was playing. The concert was one hour long. Stephenson introduced the members of his band in between songs. He also announced the names of the songs and provided blurbs on their background. On several occasions he thanked his multiple audiences, those in Nashville, TN, at The Station Inn where he was physically playing, those watching via The Station Inn TV, and those of us at the Venues App in the Oculus Quest 2.

This was my first Virtual Reality (VR) concert experience through an Oculus Quest 2, a VR headset developed by Oculus, Facebook's[123] VR division. The concert was part of the programming of the Venues (Beta Early Access) application. This application was developed and published by Facebook VR and released August 13, 2020. I selected this performance because I like listening to bluegrass music and it was advertised as "Larry Stephenson – Live in VR." I wanted to understand what the word *live* means in this space. I didn't know what to expect. I knew that the in-person performance at The Station Inn location had been recorded since I found a preview of it on YouTube that was described as "Streamed live on Oct 5, 2019."[124] Perhaps, it was "live" because this was the only time the concert was offered in Venues, and/or because when it was originally recorded at The Station Inn, an audience was present.

The Oculus Quest 2 headset had been in my house since December 2020. Its set up consisted of multiple steps that include connecting it to my wi-fi, linking it to my Facebook account, and creating my Oculus avatar. The connection to wi-fi allows me to search for apps which, by logging into my Facebook account, I can then purchase, download, and access through

[123] In October 2021, Facebook was rebranded as Meta. I will continue to call it Facebook as this was the name of the company at the time of my research.
[124] Link to the preview on YouTube, https://www.youtube.com/watch?v=LP0V28uXpYI (Accessed June 5, 2021)

the Oculus. Although the Venues app is available at no extra cost, it does have to be downloaded. Along with the headset, the Oculus Quest 2 includes two handheld touch controllers. The headset goes over the eyes of the user, blocking sight of the physical world, replacing them with images from the app's virtual worlds (see Figure 4.5). At first, this affected my orientation and balance; I felt a bit nauseated. Since I do not like this effect, I use the device while sitting down on my physical couch. For sound, there are speakers inside the headset, around the area of the ears, that support 3D audio. Although it has a headphone jack, I have grown tired of the feeling of headphones in my ears and since the sound from the speakers provided me with a good sense of the space, I decided not use headphones (see Figure 4.6). Each handheld unit has action buttons, a thumb-stick, a trigger, and a grip button that when pressed in a variety of combinations can, among other things, bring up a menu for navigation and select and grab objects within the virtual world (see Figure 4.7). In addition, the controllers are equipped to recognize the user's physical hand and finger gestures which are then recreated in the virtual world. This feature enabled me to observe the rhythmic movements of the avatars who were in the Larry Stephenson's concert with me.

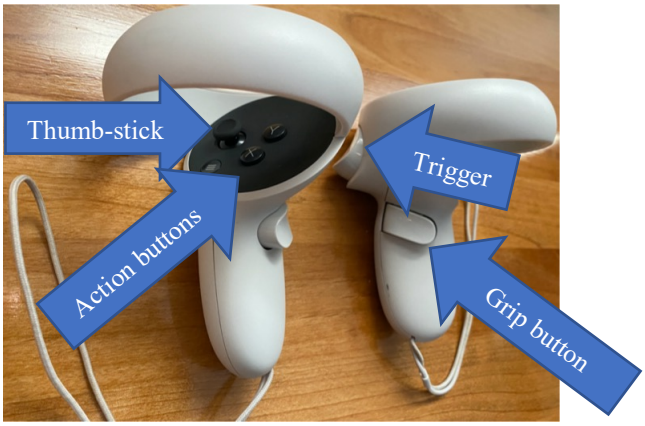
Figure 4.5 Oculus Quest 2 - Position of Headset and Handheld Controllers

Photograph by Max DeLozier.

Figure 4.6 Oculus Quest 2 - Headset's Headphone Jack

Photograph by author.

Figure 4.7 Oculus Quest 2 - Handheld Controllers

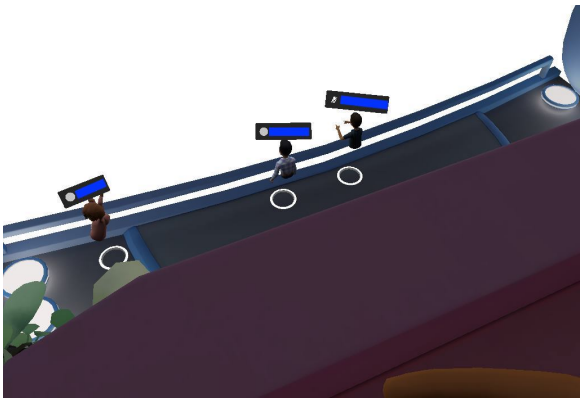


Photograph by author.

The Oculus Quest 2 headset facilitated my VR experience of Stephenson's concert. Equipped with the headset and handheld controllers, I selected the Venues app which placed my avatar in the virtual lobby. Within that space, I searched for Stephenson's concert and entered the virtual hall. From my VR seat at Venues, I could see a small group of avatars on the bottom level, but I couldn't see the people in the audience who were physically at The Station Inn location. I had a great view of the Venues' stage which served as a frame in which the Station

Inn's stage fit perfectly. Everything felt so real that I wanted to document the experience. Using the handheld controllers and respecting their privacy, I took a picture of the group of avatars below me (see Figure 4.8). I also took a picture of the musicians, however, only a blank screen with the Venues logo showed up in the picture (see Figure 4.9). Not quite convinced that I had taken that picture correctly, I repeated the action two more times obtaining the same result. At that point, I remembered that Stephenson's performance was shown through a screen in Venues. It is not that I was fooled; in this concert, the two stages were contrastingly different. Perhaps my perception of reality was temporarily skewed. Most likely, images of the performance are copyrighted, and the software prevented the making reproductions of them.

Figure 4.8 Venues - Avatars Listening In



Virtual photograph by author.

Figure 4.9 Venues - Failed Photograph of the Musicians

Virtual photograph by author.

My failed attempt to take a picture of the musicians placed me in between two realities, the physical and the virtual. Taking a picture of the stage is an action I commonly do when physically attending a music performance. This action reinforces my connection with the event and my perception of it as "real." The inability to capture an image of the musicians prompted me to question my understanding of reality. There are different approaches to defining reality. In quantum physics, Schrödinger's thought experiment of a cat that is both alive and dead inside an opaque sealed box pending observation has influenced physicists to formulate theories such as Karen Barad's agential realism based on "agencies of observation" (2007, 114) and John Gribbin's description of physical reality, "Nothing is real unless it is observed" (1984, 3). Sociologists Peter Berger and Thomas Luckmann define reality "as a quality appertaining to phenomena that we recognize as having a being independent of our own volition (we cannot 'wish them away')" (1966, 13). Furthermore, from their sociological perspective, reality is shaped through social interactions and thus is sociologically relative (Ibid., 15). Even though I did not manage to take a picture of the musicians, in experiencing "Larry Stephenson—Live in VR," I opened the box, the cat was alive, and I shared that reality with others.

In tracing the history of the concept and use of the word *virtual*, sociologist and cultural theorist Rob Shields notes that the word *virtual* has been used for centuries mainly to describe things that are apparent, or an imitation of the real. However, in the latter part of the twentieth century its meaning became associated with computer-mediated experiences (Shields 2003, 2). For philosopher David Chalmers, the reality in VR is "genuine" (2017, 309). He argues that virtual objects, events, and experiences are digital versions of reality. Together, the words *virtual* and *reality* describe a representation of a world mediated digitally that a user perceives as actually existing in some physical sense.

While admitting that "there is no universally accepted definition of virtual reality," Chalmers identifies three fundamental characteristics of a virtual reality environment, namely immersion, interaction, and computer-generation (2017, 312). These first two characteristics are also significant in the live music experience in the physical world, and I will discuss them in turn. For Chalmers, a VR environment is immersive when it provides the user "the sense of really being present at that perspective" (Ibid.). This description of immersion differs from Eladhari's gamer's immersion and my musical immersion in that Chalmers is describing an environment instead of an experience. However, "being present" requires attention and the involvement of all the senses with such an environment which aligns with my definition of immersion presented at the beginning of Chapter Two.

In my experience, the level of immersion in a VR world depends on the technology used to experience it. When I watch and listen to a music performance through a screen in a computer, phone, tablet, or television, I am often distracted by the physical world surrounding that screen. My mind wanders easily, and I may even begin to do something else while listening. Through the VR headset, I can experience the virtual world by seeing images and hearing sounds that my brain interprets as three-dimensional. In addition, the headset blocks any image and most sounds of the physical world surrounding me. Through the engagement of those two senses, the headset immerses me into the reality of the virtual world. There is nothing else I can do because I am visually and aurally limited to that world. During Stephenson's concert, this immersion facilitated my experience of the music, since my attention was grabbed by the virtual world that I was seeing; I was present in that world. The main distractions I experienced were having random avatars approaching me to talk, and some loud noises from the street in my physical world that filtered through.

Chalmers' second key condition of a VR environment is interaction, and this refers to how the actions of the user affect the VR environment (Ibid.). In VR, users interact with the environment through a variety of controllers or external devices that connect the user with the VR environment. Throughout this dissertation I have focused on interactions between and among individuals as well as their interaction with the musical space. As I have explained through the Energy Transmission Loop and the Energy Transmission Spiral, these interactions influence the participants' performance and experience. Interacting with other avatars in Venues was for me considerably different from playing with an avatar in a video game. In the VR headset experience, I felt no distinction from my avatar. Except for the times others took a picture of my avatar and showed it to me, I could not see, nor did I think about my avatar. I was immersed in that virtual world. In the Larry Stephenson concert that I experienced through my VR headset, my avatar and I were one; it became my persona as Eladhari explains. When I play a non-VR video game, I am fully aware that it is my avatar in the video game, possibly due to my lack of practice playing video games. Regardless, in a non-VR experience, such as in the LNX or the Twenty Øne Piløts Roblox concerts, the person controlling the avatar is constantly seeing the movements the avatar is making. It is possible that players who have considerable practice with video games may not think about the disconnection between them and their avatar. The manipulation of the avatar might become second nature to the player and thus their avatar becomes their persona, an extension of themselves.

While I enjoyed interacting with the other avatars who were in the same area as me, I did not feel connected with Stephenson or his band. A type of immersion was there, mainly because distractions were minimal, but at no point did I feel as if I were interacting with the musicians. Perhaps the lighting was too bright inside the venue, or the use of the screen made it too much

like a movie theater, characteristics that would have also bothered me in a physical concert venue. However, there are other applications for live music performances through VR headsets that provide different experiences using different types of technology to record and later render a performance. For example, MelodyVR is an app that offers pre-recorded content shot using cameras that record in 360 degrees. The app places the viewer on stage with the option to select the angles from where to view the show, such as front right, front left, runway, on stage, and front of house. Having downloaded the MelodyVR app, I experienced a concert of Imagine Dragons, a pop rock band from Las Vegas, Nevada. At first, I felt overwhelmed by all the information my brain was receiving, but I quickly adjusted. The ability to navigate around the stage and stand among the musicians, added a new layer of excitement. The closeness to the musicians made this immersive VR experience feel intimate, yet it was not possible for me to interact with others in the audience. The images of people in the audience and the closeness to the musicians made this immersive VR experience feel more intimate than the one in the Venues app. Another application dedicated to experiencing events (including music performances) through VR headsets is NextVR. For NextVR, the spherical video technology is combined with "six degrees of freedom," a technology that records high-definition 3D, allowing the user to move freely and "shift your perspective in a pre-recorded scene as if you were experiencing it live" (Statt 2018, n.p.). Although these technologies aim to provide a deeper level of immersion and intimacy to the VR live music experience when using a headset, they are currently limited in the type of interaction in which the user can participate and the senses they engage. While each system attempts to simulate some subset of the components that add up to a live music experience, it remains to be seen whether technology will ever provide the means to replace them all.

In writing about the value of the virtual reality experience, VR pioneer Jaron Lanier conveys that VR increases human appreciation for physical world experiences—especially the most basic ones, which are often taken for granted. Unlike social platforms, which continue after the user's death, the VR experience expires. As Lanier explains, "VR is the technology that instead highlights the existence of your subjective experience. It proves you are real" (2017, 56). In experiencing music performances in VR, I was exposed to a different reality, one in which the participants interact and experience the music through a subjective representation of themselves. As VR technology advances, it may give access to a world in which more musical interactions may effectively develop, and all five senses may be engaged.

Closing Thoughts

In this chapter, I have examined representative characteristics of artists and audience interactions, musical immersion, and intimacy that digital technologies such as streaming and virtual reality allow and have explored the significance of the live music experience in the digital domain. I began the chapter arguing that my question of whether virtual is the new live is not useful. Instead, I proposed that evaluating how well or poorly the interactions that occur in a musical interchange are created and/or reproduced will ultimately facilitate the understanding of how liveness is important in a music performance. The three kinds of interactions that I have identified in this dissertation as broadly occurring in a music performance, namely among the performing musicians, between musicians and their audience, and among members of the audience, served as good template for such an evaluation.

The limitations imposed by the COVID-19 pandemic forced each of the musicians in the Alexander String Quartet to rehearse and record their music from different locations. Recording

following the sound of a click track felt unnatural to the musicians and though they produced a recording, they recognized the experience as not ideal. Instead, they found a location that allowed them to play together while following safety protocols. This separation was not optimal but the ability to see and hear each other while playing proved invaluable. Their recording was then streamed online and even though they addressed the audience in a pre-recorded video, the audience was not able to respond synchronously. In essence, there was no Energy Transmission Loop between the musicians and their audience. Except for those living in the same household, members of the audience most likely experienced the performance independently without interaction among them.

In evaluating how these interactions develop within the VR realm, I use Eladhari's stages of identity to consider how a user behaves and interacts in digital environments, including interactions with others in it. The Lil Nas X and Twenty Øne Piløts Roblox experiences placed artists and audience in the same digital world. Even though the artists used motion-capture technology to create their avatars and record their dance moves before the performance and the audience created their avatars with the technology offered by the gaming platform, the artists' and audience's avatars shared the same virtual space during the event, something that, at least on November 2020, as humans they could not have done due to the COVID-19 pandemic's social distancing restrictions. In addition, in the Roblox world, the audience, through their avatars, interacted synchronously with each other by sending up emojis, displaying their emotes, and commenting on their experience. These interactions, artists-audience and audience-audience, continued after the event on YouTube further validating and reinforcing the experience and their connection with the artists and their music. Music experiences in the physical world are meant for humans. The virtual worlds Roblox creates, as demonstrated by LNX and Twenty Øne Piløts,

can become spaces for humans to experience music virtually through their avatars. While music experiences in the physical world generate Energy Transmission Loops between artists and their audience, in virtual worlds, such as those in Roblox, the Energy Transmission Loop develops into an Energy Transmission Spiral due to the asynchronicity of the artists-audience interactions. However, the Energy Transmission Spiral is not limited to the virtual worlds; it is arguably a subsequent part of the in-person live music experience, a continuation of the Energy Transmission Loop, as the experience continues to resonate in people's memories and ripples continue to propagate.

In the VR experiences through a headset, neither the musicians nor their avatars were actually present, only their pre-recorded performance. For the musicians in Stephenson's band or Imagine Dragons, being recorded while performing in front of a live audience at a physical venue most likely did not interfere with their customary music making interactions. However, for the audience experiencing the performance through a VR headset, the immersive nature of the technology facilitated an illusion of being in the musicians' physical space, especially when using the MelodyVR app. Interaction among members of the audience was possible in the Venues app as avatars could talk to other avatars, share emojis, celebrate with confetti, and even dance. In the MelodyVR app the audience in the physical live performance could not interact with those using the app. Nevertheless, the VR experience is so vivid that the users may feel as if they were physically present in the concert seeming to be energized by the other members of the audience and creating an Energy Transmission Loop, albeit as an illusion, with the musicians (see Figure 4.10). It is also possible that an Energy Transmission Spiral is formed after the experience just as could happen after an in-person performance.

Figure 4.10 Musician-Audience Energy Transmission Loop in a VR/Headset Music Experience

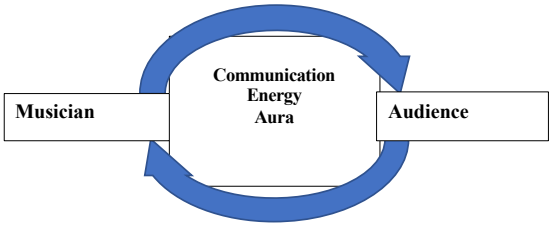


Fig. 4.10.1 In an in-person live music experience.

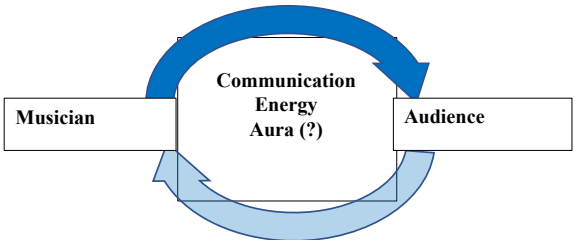


Fig. 4.10.2 In a VR/headset music experience.

In the virtual experiences I explored in this chapter I found that musical immersion and intimacy are limited by the technology as well as the level of comfort and expertise a user has with such technology. During the live streaming of the ASQ performances, I never lost my awareness that I was watching a recording. Although I enjoyed watching and listening to ASQ play, I had a difficult time avoiding distractions. I did not reach the immersive and intimate connection I had achieved in their performances at the Vanderhoef Studio Theater. The VR music events in which I participated, both in Roblox and through a headset, allowed me to witness how having dexterity in moving an avatar and navigating a virtual world facilitates immersion in those types of musical experiences.

The bond formed between humans and their avatars is akin to the bonding musicians experience with their musical instruments. Like VR, a musical instrument is also a technological development that a musician becomes intimately acquainted with through numerous hours of practice. The relationship between musicians and their instruments often develops in stages similar to those Eladhari discusses in relation to video game players and their avatars. Musicians frequently refer to their musical instruments as extensions of themselves and this connection facilitates for a musician to become fully immersed in their music performance.

In addition to VR, there are other technologies that connect musicians and audiences in music experiences presented in settings with alternate realities. Augmented reality (AR) is an example of such a technology. AR does not offer a separate reality as it augments or adds to the reality of the actual physical world. For example, as part of their 2018-2019 season, the Mondavi Center included an AR concert in which a hologram of the renowned opera singer of the twentieth century Maria Callas appeared to sing while being accompanied by an actual orchestra live in front of an audience in Jackson Hall. Although I was not part of the audience in this concert, I have read the customer feedback report which allowed me to analyze some elements of the experience. Out of 95 comments submitted, the majority had a positive experience; some had liked it but would not necessarily seek to see it again. There were only three negative comments about the quality of Callas' hologram. One person felt that Callas' performance was stiff, "She hardly moved!"; another was disappointed at "not being able to really see any of her facial expressions"; and the other commented that "there was too much 'acknowledging of the crowd' by Ms. Callas." Usually, artists' acknowledgement of a crowd is part of the Energy Transmission Loop, a response to applause. The excessive acknowledgement of the crowd was troublesome for other patrons who thought the hologram was mesmerizing but "found it odd to be applauding a hologram" and felt that it was "difficult to keep up the applause for a simulacrum." Knowing that it was a hologram and not a live artist interrupted the Energy Transmission Loop for these patrons. Nonetheless, the combination of the actual live orchestra with Callas' hologram made the concert a uniquely crafted mixed reality experience. As a patron described it, "Intellectually I knew that I was watching a specter, but once the symphony began to play, I suspended my disbelief and enjoyed the show." I do not include a further analysis of concerts with AR

technology because I have not experienced any of them. Nonetheless, they are another example of technology pushing the boundaries of the artist-audience interaction.

The interaction among members of the audience is an activity that strengthens social bonds whether it happens in the physical or virtual world. In my interview with a product manager who works in the VR industry, he explained that beyond immersion, "creating community" is a key objective of the VR experiences his office oversees. He affirmed that providing a shared space in which everyone can have a positive experience and interact at a certain moment is in fact what defines a VR event as live.[125] Thus, based on his explanation, the "Larry Stephenson — Live in VR" was advertised as live because the event was released at a specific time for everyone to experience it for the first time, together in a particular virtual space. This insight clarified my speculation regarding the use of the word *live* for this event. Similarly, the Roblox music experiences were also released at specific times in which the audience's avatars could join the musicians' avatars. Live-streamed performances can also be available at a specific time which commonly differentiates them from audio-visual recordings. In the end, it is the level and type of interactions facilitated by the streaming or VR technology that determines the liveness of a live music experience in the digital domain.

[125] Product manager in the VR industry, interview with the author, September 8, 2021.

CLOSING REMARKS

After the nineteen-month hiatus forced by the COVID-19 pandemic, in September 2021, the Mondavi Center began a new season (2021-2022) hosting in-person live music again. Although the COVID-19 virus had not been eradicated as of May 2022, vaccines, treatment drugs, and testing had become more readily available. These medical advances made most people feel more at ease and the national and local governments in California, as well as the University of California, Davis, began adjusting the mandates that were enacted due to the COVID-19 virus (Cowan 2021). Yet, planning for a programming season at the Mondavi Center happens months in advance. The continuing uncertainty around the pandemic drove the programmers to plan for performances to happen only in Jackson Hall mostly due to the size of the space which allows for the possibility of distancing if necessary. The Mondavi Center's associate executive director, Jeremy Ganter, admitted that the decision to keep the Vanderhoef Studio Theater closed for the 2021-2022 season was difficult to make. Ganter explained that due to all the financial hardships brought about by the pandemic, not only would the VST remain off-limits for concerts, but the number of performances in the 2021-2022 Mondavi Center's season would be two thirds of what it was before the pandemic.[126]

Going back to the Mondavi Center to experience live music was a must for me not only for my research but for my personal well-being. For my research, I wanted to observe the effect, if any, of what being denied the in-person live music experience for such a long time had on people, especially on those who before the pandemic used to frequent the Mondavi Center. Would people return to experience music live at the Mondavi Center? Which music styles would bring back more people? Would people feel comfortable being physically close to others over a

[126] Jeremy Ganter, interview with the author, August 25, 2021.

long period of time and in an enclosed space? How would people respond to the live music experience after such a long time? These are some of the questions that I pondered during the pandemic. I was not the only one thinking about those questions, the Mondavi Center's executive director, Don Roth, disclosed having very similar questions in mind when I interviewed him during the summer of 2020.[127] What follows is a reflection on the findings and analysis I have presented in this dissertation as well as an attempt to address the aforementioned questions. I do so through the examination of the first in-person performance of the 2021-2022 season, the return of the live music experience to the Mondavi Center.

The Return

On Thursday October 14, 2021, Arturo O'Farrill and the Afro Latin Jazz Orchestra was the opening performance of the 2021-2022 Mondavi Center season. This concert had a special meaning because it signaled the return to in-person performances at the Mondavi Center for the first time since the shutdown that began in March 2020. My experience at this concert differed from pre-pandemic experiences in several ways. To begin, the protocol for entering the venue had added requirements. In addition to showing the ticket purchased for the performance at the entrance, every patron over the age of 18 had to provide proof of up-to-date COVID-19 vaccination status or negative COVID-19 test results along with a state-issued identification card in which the name had to match the one on the vaccine record or test result. Individuals were required to wear a face mask that always covered the nose and mouth, starting the moment they lined up outside to enter the building, during the performance, and until exiting the building afterwards. There were also no printed programs; information about the concert could be

[127] Don Roth, interview with the author, June 30, 2020.

accessed on the newly developed Mondavi Center mobile app; eliminating paper programs reduced the risk of spreading the virus by physical contact with physical surfaces; saved money by not having to print programs; and provided flexibility in case of last-minute changes.

In the Yocha Dehe Grand Lobby, the concessions stand, and the gift shop were closed, and no coat or bag check was available. Before the concert, some people did hang around in the lobby, yet the space felt quieter in comparison to how it was before the COVID-19 pandemic, when the buzzing of people's voices was omnipresent before a performance. It is possible that the face masks were responsible for this effect. When worn correctly over the nose and mouth, a face mask can protect wearers and those around them from pathogens. However, the face mask is also a barrier for the senses. (See my analysis of the senses during the live music experience in Chapter One.) While on an individual's face, the mask prevents eating and drinking (food and beverages were not allowed in the venue); it limits their sensitivity to smells (Chen et al. 2020) (the subtle scent of petrichor that emanates from the limestone was imperceptible); it blocks most of their kinesthetic sensitivity to the environment (Park et al. 2021) (mostly the warm and humid air of people's own breath circulates through the mask); it challenges their ability to interpret others' facial expressions (Grundmann, Epstude, and Scheibe 2021); and it undermines communication by reducing the volume and clarity of speech (Yi, Pingsterhaus, and Song 2021); these last two characteristics can make socializing especially frustrating and difficult. Therefore, that evening, not having the concessions, the gift shop, the coat or bag check, and having to wear face masks were factors that limited the function of the Yocha Dehe Grand Lobby as a space conducive for social interactions.

For my research in pre-COVID times, the lobby had granted opportunities to interact with and interview patrons. That first evening back, however, I felt out of practice, and I sensed that

the occasion merited extra sensitivity and respect of others' space. Avoiding making anyone feel uncomfortable, I did not approach patrons in the lobby even though I had many questions I wanted to ask. However, once I was in my seat, the person sitting next to me asked me a question which served to establish brief conversations before and after the performance. Although excited to be back in the Mondavi Center, this patron confessed to be upset about not receiving a printed copy of the program and not having the option to purchase a drink in the lobby. He felt as if he was only getting a partial experience since he likes to "enjoy a drink when he comes to the Mondavi Center." In the Mondavi Center's Constituent Feedback Report, other patrons complained about the lack of printed programs as well as the concessions being closed and not being allowed to bring their own water bottle into the venue. These measures were put in place to minimize the chances of people removing or lowering their masks, potentially exposing them or others to the virus.

There are advantages and disadvantages to replacing printed programs with digital versions. Reducing the amount of paper and energy used for printing and producing less waste are certainly beneficial to the environment. Having the program notes available in the mobile communication device allows people to access them whenever they desire, assuming they have installed the Mondavi Center mobile app and access to internet service. On the other hand, not every patron wants to download and add another app to their device and others prefer the printed version; an alternative that would address such a concern could be to post a QR code for access to the online program. Nonetheless, one patron listed "Non printed programs" as a major problem encountered at the event. Additionally, having to look at a mobile device during a performance is distracting for the individual checking the device as well as for those nearby, an

action that reduces the possibility of immersion and breaks the flow in the Energy Transmission Loop.

Before the performance began, Don Roth, executive director of the Mondavi Center, spoke about the 19-month hiatus caused by the pandemic and thanked the audience for their support. He also introduced the University Chancellor, Gary May, who briefly addressed the audience, acknowledging some of the hardships endured since March 2020. Having the University Chancellor speak before a performance is not a common event. These introductions, especially the Chancellor's, framed the performance that evening with the extra layers of meaning.

This concert was associated with Arturo O'Farrill's *Fandango at the Wall*—a project centered on the desire to bring "the people of the United States and Mexico together through music."[128] Throughout the performance, O'Farrill and some of the musicians shared background information on the origins and significance of the Fandango project, explained the meaning of the songs, introduced every musician, and invited the audience to participate. In return, the audience sporadically offered some emotive shouts such as "Viva Mexico" (Long Live Mexico). These contextual, discursive, and emotive vocal interactions between the musicians and the audience highlighted the collective nature of the live music experience as described in Chapter One.

The lighting design in this concert gave the stage a magenta hue that also illuminated the audience chamber. Visually, the spotlight and all the attention were directed to the musicians. Arturo O'Farrill and the musicians from the Afro Latin Jazz Orchestra shared the stage with two guest ensembles, namely the Villalobos Brothers and the Conga Patria Son Jarocho Collective.

[128] Kabir Sehgal, 2020, "About: Cultural Diplomacy," https://fandangowall.com/about/ (Accessed August 31, 2022) See https://fandangowall.com for more information about the *Fandago at the Wall* project.

Because the musicians were not wearing face masks during the performance, the first two rows in the audience chamber were left empty and blocked off to increase the physical distance between those on stage and those in the audience chamber (see Figure 5.1). In addition, yellow tape with the words "CAUTION DO NOT ENTER" written on it served as a reminder to members of the audience to avoid approaching the stage area. These extra precautions were also part of the COVID-19 prevention protocol.

Figure 5.1 Arturo O'Farrill and the Afro Latin Orchestra with Guests

Photograph by author.

The music O'Farrill and the Orchestra played that evening was representative of a variety of styles, including Latin jazz, hip hop, and Mexican *son jarocho*[129] performed by the Villalobos Brothers and the Conga Patria Son Jarocho Collective. The rhythms, some waltz-like in simple 3/4 meter, others in compound 6/8 meter, and others in *sesquialtera* rhythm which superimposes

[129] Son jarocho is a regional music style from the state of Veracruz, Mexico. It is typically danced to, in verse/chorus form, and in triple meter (see Moore and Clark 2012, 87-90).

3/4 and 6/8 meters, in some of the music styles they played, such as son jarocho, mambo, and hip hop, commonly entice people to spontaneously move and even dance. That evening, however, the audience appeared timid about embodying their music experience. A member of the Mondavi Center Administrative Advisory Council (MCAAC) noted in their written feedback that, "During the concert I thought many times how weird it is that we are all sitting up straight in our seats listening to that sort of music, where the culture around its form is to be dancing and moving around in an informal space. Seemed like we were missing out on something just sitting back oddly separated and 'stiff.'" As I have elaborated in Chapters One and Three, the physical setting of Jackson Hall is not conducive to dancing. Yet, there have been plenty of performances, some of which I wrote about in those chapters, in which the audience stood up from their seats and moved about the space, especially when the artist invited the audience to dance, as O'Farrill did. Another member of the MCAAC described that ". . . toward the end of the show, the band seemed to really be trying to get people to participate in the performance more by standing up/dancing/letting loose a little, but at least around me everyone stayed in their seats." I also noticed that there were no members of the audience dancing in Jackson Hall even though the musicians were encouraging the audience to dance. Aware of the audience response (or lack thereof), toward the end of the concert, O'Farrill engaged the audience by instructing and inviting them to clap the 3-2 *clave*[130] rhythm [x..x..x...x.x...]. The audience responded by clapping the rhythmic pattern along. In having to pay attention, listening, and clapping the rhythmic pattern, the musicians and the audience became musically entrained. As I discussed in

[130] Clave means key or code in Spanish. Rhythmically, the clave is a syncopated five-stroke pattern distributed over eight beats. Depending on the rhythmic ratio of the five strokes, the clave is said to be oriented as 3-2 or 2-3 (see Bakan 2012, 244-245). This fundamental pattern is considered by most musicians as a "temporal organizer . . . the key to an understanding of the music" that features it (Díaz 2021, 92). In this performance, O'Farrill used the 3-2 orientation of the clave pattern.

Chapter Two, musical entrainment can serve as a precursor in the process of musical immersion, a key element of the Energy Transmission Loop.

One of the possible factors that would explain the stillness manifested by the audience during O'Farrill's concert is the lack of in-person interactions most people experienced during the first months of the pandemic.[131] Although in the written feedback nobody mentioned whether they felt comfortable sitting in close proximity to others for an extended period of time in an enclosed space, it is possible that people were being careful. Not being able to read the facial cues of those around due to the face masks is a factor that probably hindered behavioral contagion. In general, having to wear a face mask reminds many people of the COVID-19 pandemic which could have made it difficult for those people to immerse themselves into the experience. Wearing a face mask limits the amount of information the senses perceive and also heightens the awareness of those limitations. For example, several patrons wrote in the feedback about the temperature of the room feeling warmer. This comment was not common before the pandemic. The temperature in the room was most likely the same as in many other occasions, but the face mask traps the warm air from the wearer's breath, increasing the temperature of the skin around the face (Park et al. 2021). Therefore, in addition to the physical limitations of the space, such as not being able to move the seats, the audience was insecure about how to behave or what was "safe" to express in that setting and under the circumstances imposed by the pandemic. Clapping along to the clave rhythm was an action that didn't involve moving or risking too much; it was a safe way to interact and participate.

Based on the written feedback provided by the audience and the members of the MCAAC, people were happy to be back at the Mondavi Center, and for many this was the first

[131] See Galea, Merchant, and Lurie 2020; and Sikali 2020, for predictions on behavioral and mental health consequences of social distancing during the COVID-19 pandemic.

in-person live music performance they had attended since the shutdown. The feedback also mentioned appreciation for the precautionary measures the Mondavi Center took to address the pandemic, such as having to show proof of vaccination or negative test results and the correct and continuous use of face masks. Although many people are uncomfortable wearing a face mask, that evening, 841 people spent over two hours without an intermission wearing a face mask to experience Arturo O'Farrill and the Afro Latin Jazz Orchestra in Jackson Hall.

Although the feedback reflects that O'Farrill's audience was happy to be back in the Mondavi Center and was pleased with O'Farrill's performance, comments highlighting sound problems were abundant—35 out of 89 patrons who filled out the feedback report wrote about their discontent with the sound balance and volume. As I mentioned in Chapter Three, Jackson Hall is a musical space with acoustic characteristics that favor music that does not require amplification. However, to expand the range of music styles, the Hall has a sound amplification system. This system had just been upgraded before the last in-person performance in March 2020. It is possible that the amplification system required adjustments or that the sound engineer needed to be more familiar with the system. Despite suboptimal sound amplification and the sensorial limitations imposed by the face masks, the musicians and the audience shared immersive moments, such as clapping the *clave* rhythm together. At the end of the concert, the audience offered their applause and two standing ovations. That evening, after 19 months of no in-person performances in the Mondavi Center, O'Farrill as well as the other musicians along with the audience transformed the musical space of Jackson Hall into a musical place.

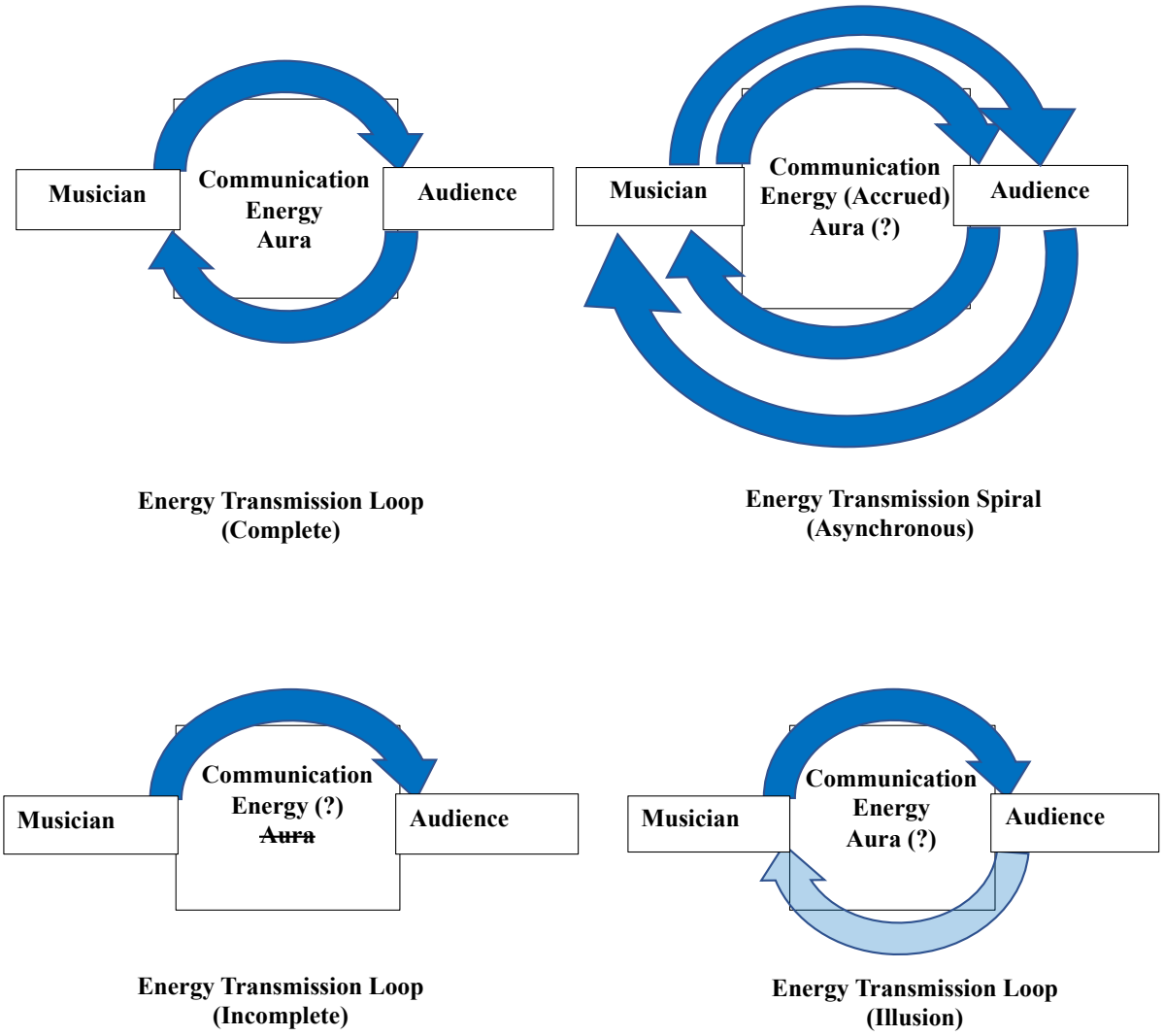
Reflections and New Directions

This study aimed to examine the value of the live production and reception of music within the context of a performing arts center. While conducting my fieldwork and analyzing the information I collected, I discerned that the essence of the live music experience resides in the live interaction between and among those present in the experience. I have argued that during a live performance, the interactions between the musicians and the audience generate what I call an Energy Transmission Loop. The individual's engagement of the senses (Chapter One), the process of musical immersion (Chapter Two), as well as the suitability of the musical space (Chapter Three) facilitate the formation and completion of the Energy Transmission Loop in the live music experience.

The limitations brought by the pandemic meant that for many the only way to experience music was through a mediating device. In Chapter Four, I examined virtual music performances in three different digital domains, namely streamed, staged in a video game, and presented through a virtual reality app. Although the COVID-19 pandemic caused the sudden end of my in-person fieldwork and an unexpected turn in my research, it pushed me to refine my research questions and to think about the characteristics that make the live music experience *live*. Through my virtual live music experiences, I discovered that each virtual musical space, like the physical musical spaces they mimic, generates unique experiences and deserves careful consideration and analysis. This virtual fieldwork has also led me to understand better the challenges around the use of the word *live* when musicians and audience do not share the same physical space at the time of the performance. Whether physical, mediated, augmented, or virtual, the space largely determines the type of interaction that is generated between and among the participating individuals. Examining virtual musical experiences led me to expand my understanding of the

Energy Transmission Loop, consider the model of the Energy Transmission Spiral as well as the possibility of an Energy Transmission Loop completed as an illusion (see Figure 5.2).

Figure 5.2 Possible Variations of the Energy Transmission Loop



Except for Chapter Four, every chapter of this dissertation developed around my analysis of the music performances I attended during my fieldwork in the 2019-2020 programming season of the Mondavi Center. I selected each performance based on how their unique characteristics were represented and the number of details I documented in my field notes. During my analysis, I was often amused by how my observations echoed the comments other

members of the audience would raise either in their written feedback reports or in conversations. The similarities in our comments confirmed my analysis of the collective nature of the live music experience. The differences served as a reminder of the challenges of working with data that incorporates a large number of individuals.

The use of a combination of qualitative methods proved to be valuable for my research. The information I collected through feedback reports, interviews, and multisensory participation provided perspectives that led me to refine my arguments and models as my project developed. Traditional methods of qualitative analysis allowed me to see and listen beyond the words used by the individuals who participated in my research into their connotations and meanings. However, there is room and value in supplementing qualitative analysis with quantitative research on the participants and the interactions that develop in a live music experience. For example, a computational analysis of the text that is part of the responses provided by patrons in the Constituent Feedback Report and by members of the MCAAC could show more comprehensively relationships between words, frequency of words used, and recurrent themes in speech, and could reveal key phrases within the data text corpus. In addition, I would have liked to collect every musician's and audience member's immediate feedback on their level of immersion, emotional response, sensory perceptions, and perspective at every performance. Unfortunately, such a comprehensive technology is not widely available, adapted for musicians, or fine-tuned for the live music experience yet. Even though there have been many advances in audience feedback technology, many of the studies suggest the use of what appear to be invasive measurements on the participants.[132]

[132] See, for example, Latulipe, Carroll, and Lottridge 2011, for their use of biometric sensors to measure audience engagement while watching videos; and Barkhuus and Jørgensen 2008, for their work on prototype technology known as the "cheering meter" to measure audience engagement in rap competitions.

Although I attended a variety of music performances in the Mondavi Center, many others were cancelled due to the COVID-19 pandemic. Mnozil Brass, Alfredo Rodriguez and Pedrito Martinez, Yamato, Sandbox Percussion, Arlo Guthrie, and Bokanté were some of the performances that were scheduled to take place between March and June 2020. These performances would have expanded the range of music styles and musician-audience interactions I could have analyzed. The limited time frame allocated to my fieldwork and the number of spaces that informed my research allowed for the representation of only a portion of the music styles and musical spaces in which live music can be experienced. On a larger scale, an examination of the live music experience at other performing arts centers could reveal trends associated with music styles. Moreover, the live music experience in virtual reality spaces needs to be studied in more detail. Technological advances, such as haptic feedback in virtual reality that can be experienced through a headset,[133] continue to expand the possibilities for understanding human interactions with music and with each other in virtual spaces.

During the 2021-2022 Mondavi Center season, the strict preventive measures around COVID-19 continued until March 19, 2022, when the University of California, Davis, followed public health guidelines and lifted the face mask mandate required in most indoor settings.[134] Since then, at the Mondavi Center, face masks have been optional, and snacks and refreshments to be consumed in the lobby have been sold before some performances. As of April 2022, proof of COVID-19 vaccination and/or negative test results along with photo ID continued to be required before entering the venue. According to the Mondavi Center's website, this last measure

[133] See, for example, Hwang, Son, and Kim 2017.
[134] https://www.ucdavis.edu/news/uc-davis-announces-change-indoor-masking-effective-march-19#:~:text=Effective%20Saturday%2C%20March%2019%2C%202022,the%20Davis%20and%20Sacramento%20campuses (Accessed March 13, 2022)

will not be in place through the 2022-2023 season.[135] It is possible that other measures will be re-implemented if the number of COVID-19 cases increases. No one can ever deny the devastation and disruption the COVID-19 pandemic brought upon the world. Nonetheless, for many of the people who have survived it, the pandemic has created a renewed appreciation for certain experiences such as interacting with others on a regular basis, not having to wear a face mask, and the ability to go to a live music performance. Because experiencing music together creates important human bonds, it is important to track the changes in behavior exhibited by musicians and members of the audience brought about by the pandemic and how they affect the live music experience.

Understanding how humans experience music together provides insights into the types of interactions that are developed among them and how fundamental those interactions are to the collective nature of the live music experience. Societies and cultural practices are fluid and multi-faceted; they do not remain in a frozen "ethnographic present." To paraphrase ethnomusicologist Bruno Nettl, an ethnographer must constantly sample, and she must realize that her work is never complete (2005, 147). The ethnographic approach in my research has allowed me to bear witness to the fact that human practices for experiencing music change and increase over time. In-person live music performances, once the only way for people to experience music, continue to attract listeners even though there are different mediated options available for the same purpose. Mediated music performances such as those presented through virtual reality mimicking the in-person experience represent a continuity in human social relations, and not an abrupt change in practices associated with the music experience. What unites in-person and virtual events is the opportunities they provide for listeners—audience and

[135] https://www.mondaviarts.org/events/policies (Accessed September 1, 2020)

musicians alike, to connect and interact.[136] Whether in-person or virtual, audiences and musicians will continue to seek connection and interaction, and it is their creativity in connecting and interacting that will determine the future of the live music experience.

[136] K-Pop artists and Beyond LIVE concerts, launched by SM Entertainment Group from South Korea, are a great example of interactive and immersive live stream concerts. https://www.forbes.com/sites/tamarherman/2020/04/21/beyond-live-k-pop-concert-streaming-service-launches-with-superm-wayv-nct-dream--nct-127/?sh=11b8b091e125 (Accessed May 28, 2022)

REFERENCES

Adams, Tony E., Stacy Linn Holman Jones, and Carolyn Ellis. 2015. *Autoethnography*. New York, New York: Oxford University Press.

Aldrete, Gregory S. 1999. *Gestures and Acclamations in Ancient Rome*. Baltimore: Johns Hopkins University Press.

Andreasen, Alan R., and Russell W. Belk. 1980. "Predictors of Attendance at the Performing Arts." *Journal of Consumer Research* 7 (2): 112-20.

Attali, Jacques. (1977) 1985. *Noise: The Political Economy of Music*. Theory and History of Literature; v. 16. Minneapolis: University of Minnesota Press.

Auslander, Philip. 2008. *Liveness: Performance in a Mediatized Culture*. Abingdon, Oxon: Routledge.

———. 2012. "Digital Liveness: A Historico-philosophical Perspective." *PAJ* 34 (3): 3-11.

Bailey, N., and Areni, C. S. 2006. "When a Few Minutes Sound Like a Lifetime: Does Atmospheric Music Expand or Contract Perceived Time?" *Journal of Retailing* 82 (3): 189−202.

Bakan, Michael B. 2012. *World Music: Traditions and Transformations*. 2nd edition. New York: McGraw-Hill.

Balint, Peter, Bruce Danziger, Paul Switenki, and John Worley. 2003. "The Mondavi Center." *The Arup Journal* 38 (2): 32-41.

Barad, Karen. 2007. *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*. Durham, NC: Duke University Press.

Barkhuus, Louise, and Tobias Jørgensen. 2008. "Engaging the Crowd: Studies of Audience Performer Interaction." In *CHI '08 Extended Abstracts on Human Factors in Computing Systems*, 2925–2930. ACM.

Barone, Joshua. 2020. "To the Rescue This Year: The People Who Put Orchestras Online." *New York Times (Online)*. December 17. Accessed March 22, 2021. https://www.nytimes.com/2020/12/17/arts/music/classical-concerts-coronavirus-stream.html

Barron, Michael. 2010. *Auditorium Acoustics and Architectural Design*. 2nd ed. London: Spon Press/Taylor & Francis.

Barry, Ellen. 2013. “Wild Applause, Secretly Choreographed.” *New York Times,* August 14. Accessed September 18, 2020. https://www.nytimes.com/2013/08/18/arts/dance/designated-cheering-spectators-thrive-at-the-bolshoi-theater.html

Becker, Judith. 1994. “Music and Trance.” *Leonardo Music Journal* 4: 41–51.

———. 2004. *Deep Listeners. Music, Emotion and Trancing*. Indiana University Press.

Belk, Russell W. 1988. “Possessions and the Extended Self.” *Journal of Consumer Research* 15 (20): 139–168.

———. 2013. “Extended Self in a Digital World.” *Journal of Consumer Research* 40 (3): 477 500.

Benjamin, Walter. (1936) 2007. “The Work of Art in the Age of Mechanical Reproduction.” In *Illuminations,* edited by Hannah Arendt, translated by Harry Zohn, 217-251. New York: Schocken Books.

Benzecry, Claudio E. 2011. *The Opera Fanatic: Ethnography of an Obsession*. Chicago: University of Chicago Press.

Beranek, Leo L. 1992. “Music, Acoustics, and Architecture.” *Bulletin of the American Academy of Arts and Sciences* 45 (8): 25-46. doi: 10.2307/3824233.

———. 2004. *Concert Halls and Opera Houses: Music, Acoustics, and Architecture*. New York, NY: Springer.

Berger, H. M. 1999. *Metal, Rock, and Jazz: Perception and the Phenomenology of Musical Experience*. Wesleyan University Press, London.

Berger, Peter L. and Luckmann, Thomas. 1966. *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*. New York: Anchor Books.

Berger, William. 1998. *Wagner Without Fear: Learning to Love—and Even Enjoy—Opera’s Most Demanding Genius*. First edition. New York: Vintage Books.

Berliner, Paul. 1994. *Thinking in Jazz: The Infinite Art of Improvisation.* Chicago Studies in Ethnomusicology. Chicago: University of Chicago Press.

Blacking, John. 1973. *How Musical is Man?* Seattle: University of Washington Press.

BOORA Architects. 1998. “UC Davis Center for the Arts.” Detailed Project Program, University of California, Davis, January 1998.

Born, Georgina. 2010. “Listening, Mediation, Event: Anthropological and Sociological Perspectives.” *Journal of the Royal Musical Association* 135 (1): 79-89.

———. 2013. *Music, Sound and Space: Transformations of Public and Private Experience*. New York: Cambridge University Press.

Boyce, Philip, and Erin Barriball. 2010. “Circadian Rhythms and Depression.” *AustralianFamily Physician* 39 (5): 307–310.

Brinner, Benjamin. 1995. *Knowing Music, Making Music: Javanese Gamelan and the Theory of Musical Competence and Interaction*. Chicago and London: University of Chicago Press.

Brown, Alan and Jennifer Novak. 2007. *Assessing the Intrinsic Impacts of a Live Performance.* Cambridge, MA: WolfBrown.

Bucur, Voichita. 2006. *Acoustics of Wood*. Springer Series in Wood Science. Berlin, Heidelberg: Springer Berlin Heidelberg.

Bull, Peter. 2006. “Invited and Uninvited Applause in Political Speeches.” *British Journal of Social Psychology* 45 (3): 563-78.

Castillo, Richard J. 1995. “Culture, Trance, and the Mind-Brain.” *Anthropology of Consciousness* 6 (1): 17–34.

Chalmers, David J. 2017. “The Virtual and the Real.” *Disputatio: International Journal of Philosophy* 9 (46): 309-52.

Chen, Ben, Qiang Wang, Xiaomei Zhong, Lena Heyne, Yuping Ning, and Thomas Hummel. 2020. “Can We Assess the Sense of Smell through a Face Mask?” *International Forum of Allergy & Rhinology* 10 (11): 1264–1265.

Chen, Xiaomei. 1998. “Audience, Applause, and Countertheater: Border Crossing in ‘Social Problem’ Plays in Post-Mao China.” *New Literary History* 29 (1): 101-20.

Chesher, Chris. 2007. “Becoming the Milky Way: Mobile Phones and Actor Networks at a U2 Concert.” *Continuum (Mount Lawley, W.A.)* 21 (2): 217–225.

Clayton, Martin. 2013. “Entrainment, Ethnography, and Musical Interaction.” In *Experience and Meaning in Music Performance,* edited by Martin Clayton, Byron Dueck and Laura Leante, 17-39. Oxford: Oxford University Press.

Clarke, Eric F. 2005. *Ways of Listening: An Ecological Approach to the Perception of Musical Meaning*. Oxford: Oxford UP.

Classen, Constance, David Howes, and Anthony Synnott. 1994. *Aroma: The Cultural History of Smell*. London: Routledge.

Clayton, Martin, Byron Dueck and Laura Leante, eds. 2013. *Experience and Meaning in Music Performance.* Oxford: Oxford University Press.

Clayton, Martin, Rebecca Sager and Udo Will. 2005. "In Time with the Music: The Concept of Entrainment and its Significance for Ethnomusicology." *European Meetings in Ethnomusicology*, 11 (ESEM Counterpoint 1), 3-75.

Colver, Mitchell C., and Amani El-Alayli. 2016. "Getting Aesthetic Chills from Music: The Connection Between Openness to Experience and Frisson." *Psychology of Music* 44 (3): 413–27. https://doi.org/10.1177/0305735615572358.

Connell, John, and Chris Gibson. 2003. *Sound Tracks: Popular Music, Identity, and Place*. CriticalGeographies; 17. London; New York: Routledge.

Cooke, Grayson. 2010. "Start Making Sense: Live Audio-Visual Media Performance." *International Journal of Performance Arts and Digital Media* 6 (2): 193-208.

Cooley, Timothy J., Katherine Meizel, and Nasir Syed. 2008. "Virtual Fieldwork: Three Case Studies." *Shadows in the Field: New Perspectives for Fieldwork in Ethnomusicology* 2nd ed. edited by Gregory Barz and Timothy J. Cooley, 90-107. New York: Oxford University Press.

Costen, Melva Wilson. 2004. *In Spirit and in Truth: The Music of African American Worship*. Louisville: Westminster John Knox Press.

Cowan, Jill. 2021. "California Today: A Timeline of the Coronavirus in California: California Today." *New York Times (Online),* last modified June 15. New York: New York Times Company.

Cresswell, Tim. 2004. *Place: A Short Introduction*. Malden, MA: Blackwell Pub.

Csikszentmihalyi, Mihaly. (1990) 2008. *Flow: The Psychology of Optimal Experience.* Harper Collins e-books.

Csordas, T.J. 1990. "Embodiment as a Paradigm for Anthropology." *Ethos* 18 (1): 5-47. https://doi.org/10.1525/eth.1990.18.1.02a00010

———. 1999. "Embodiment and Cultural Phenomenology." In *Perspectives on Embodiment: The Intersections of Nature and Culture* edited by Gail Weiss and Honi Fern Habereds, 143–162. London: Taylor & Francis Group. Accessed December 11, 2020. ProQuest Ebook Central.

Dalton, P, N Doolittle, H Nagata, and P.A.S Breslin. 2000. "The Merging of the Senses: Integration of Subthreshold Taste and Smell." *Nature Neuroscience* 3 (5): 431–432.

Daughtry, Martin. 2015. *Listening to War: Sound, Music, Trauma, and Survival in Wartime Iraq*. New York: Oxford University Press.

Davies, James Q. 2014. *Romantic Anatomies of Performance*. Berkeley: University of California Press. Accessed August 13, 2020. ProQuest Ebook Central.

Denk, Janis, Alexa Burmester, Michael Kandziora, and Michel Clement. 2022. "The Impact of COVID-19 on Music Consumption and Music Spending." *PloS one* 17 (5): e0267640 e0267640.

Díaz, Juan Diego. 2016. "Listening with the Body: An Aesthetics of Spirit Possession Outside of the Terreiro." *Ethnomusicology* 60 (1): 89-124.

———. 2021. "Orkestra Rumpilezz: Complications of African Rhythm." In *Africanness in Action: Essentialism and Musical Imaginations of Africa in Brazil*, 83-123. Oxford: Oxford University Press.

Droit-Volet, Sylvie, Emmanuel Bigand, Danilo Ramos, and José Lino Oliveira Bueno. 2010. "Time Flies with Music Whatever Its Emotional Valence." *Acta Psychologica* 135 (2): 226-32.

Dunham, Richard. 2019. *Stage Lighting: The Fundamentals*. Second edition. New York, NY: Routledge.

Eidsheim, Nina Sun. 2015. *Sensing Sound: Singing and Listening as Vibrational Practice*. Durham: Duke University Press.

Eisenberg, Andrew. 2015. "Space." In *Keywords in Sound,* edited by David Novak and Matt Sakakeeny, 193-207. Durham, NC: Duke University Press.

Eladhari, Mirjam. 2007. "The Player's Journey." In *The Players' Realm: Studies on the Culture of Video Games and Gaming*, edited by J. Patrick Williams and Jonas Heide Smith, 171-87. Jefferson, NC: McFarland.

Erdemir, Aykan. 2005. "Tradition and Modernity: Alevis' Ambiguous Terms and Turkey's Ambivalent Subjects." *Middle Eastern Studies* 41 (6): 937–951.

Erlmann, Veit. 1990. "Migration and Performance: Zulu Migrant Workers' Isicathamiya Performance in South Africa, 1890-1950." *Ethnomusicology* 34 (2): 199-220.

———. 1996. *Nightsong: Performance, Power, and Practice in South Africa*. Chicago: University of Chicago Press.

Feamster, Nick, and Jason Livingood. 2020. "Measuring Internet Speed: Current Challenges and Future Recommendations." *Communications of the ACM* 63 (12): 72–80.

Feld, Steven. 1982. *Sound and Sentiment: Birds, Weeping, Poetics, and Song in Kaluli Expression*. Philadelphia: University of Pennsylvania Press.

———. 1984. "Sound Structure as Social Structure." *Ethnomusicology* 28 (3): 383-409.

Fisher, Judith W. 2003. "Audience Participation in the Eighteenth-Century London Theatre." In *Audience Participation. Essays on Inclusion in Performance* edited by S. Kattwinkel, 55-70. Westport, CT: Praeger.

Frith, Simon. 2007. "Live Music Matters." *Scottish Music Review* 1 (1): 1–17.

Galea, Sandro, Raina M Merchant, and Nicole Lurie. 2020. "The Mental Health Consequences of COVID-19 and Physical Distancing: The Need for Prevention and Early Intervention." *JAMA Internal Medicine* 180 (6): 817–818.

Garber, Megan. 2013. "A Brief History of Applause, the 'Big Data' of the Ancient World." *The Atlantic,* March 15. Accessed September 15, 2020. https://www.theatlantic.com/technology/archive/2013/03/a-brief-history-of-applause-the-big-data-of-the-ancient-world/274014/

Geertz, Clifford. 1998. "Deep Hanging Out." *New York Review of Books* 45 (16): 69-. New York: N Y REV, Incorporated.

Gilbert, Roger. 2001. "Joyful Noise: Reflections on Applause." *Southwest Review* 86 (1): 13-33.

Greene, Jay P, Heidi H Erickson, Angela R Watson, and Molly I Beck. 2018. "The Play's the Thing: Experimentally Examining the Social and Cognitive Effects of School Field Trips to Live Theater Performances." *Educational Researcher* 47 (4): 246-54.

Gribbin, John. 1984. *In Search of Schrödinger's Cat: Quantum Physics and Reality.* Toronto: Bantam Books.

Grow, Kory. 2015. "Kim Fowley, Runaways Producer and L.A. Rock Icon, Dead at 75." *Rolling Stone,* January 16. Accessed December 6, 2021. https://www.rollingstone.com/music/music-news/kim-fowley-runaways-producer-and-l-a-rock-icon-dead-at-75-62871/

Grundmann, Felix, Kai Epstude, and Susanne Scheibe. 2021. "Face Masks Reduce Emotion Recognition Accuracy and Perceived Closeness." *PloS one* 16 (4): e0249792–e0249792.

Guhn, Martin, Alfons Hamm, and Marcel Zentner. 2007. "Physiological and Musico-Acoustic Correlates of the Chill Response." *Music Perception: An Interdisciplinary Journal* 24 (5): 473-84.

Hadhazy, Adam. 2020. “Stanford-developed Software Enables Musicians Isolated by the Coronavirus Pandemic to Jam Together Again in Real-time.” September 18. Accessed March 22, 2021. *Stanford News.* https://news.stanford.edu/2020/09/18/jacktrip-software-allows-musicians-sync-performances-online/?fbclid=IwAR0BLRHVMIKjAiOZTCOuKeybtrAFmdf9kWCAfJFsiL557i5srfqZMzuIJEg

Hager, M. A., and T. H. Pollak. 2002. *The Capacity of Performing Arts Presenting Organizations*. Washington DC: The Urban Institute.

Hall, Stefan B. 2020. “This is How COVID-19 is Affecting the Music Industry.” *World Economic Forum,* May 27. https://www.weforum.org/agenda/2020/05/this-is-how-covid-19-is-affecting-the-music-industry/

Harrison, Luke and Psyche Loui. 2014. “Thrills, Chills, Frissons, and Skin Orgasms: Toward an Integrative Model of Transcendent Psychophysiological Experiences in Music.” *Frontiers in Psychology* 5 (790): 1-6.

Heim, Caroline. 2016. *Audience as Performer: The Changing Role of Theatre Audiences in the Twenty-First Century*. London: Routledge.

Heritage, John, and David Greatbatch. 1986. "Generating Applause: A Study of Rhetoric and Response at Party Political Conferences." *American Journal of Sociology* 92 (1): 110-57. Accessed September 18, 2020. http://www.jstor.org/stable/2779719.

Hödl, Oliver, Christoph Bartmann, Fares Kayali, Christian Löw, and Peter Purgathofer. 2020. “Large-scale Audience Participation in Live Music Using Smartphones.” *Journal of New Music Research* 49 (2): 192-207. DOI: 10.1080/09298215.2020.1722181

Holt, Fabian. 2010. “The Economy of Live Music in the Digital Age.” *European Journal of Cultural Studies* 13 (2): 243-261.

Howes, David (ed.). 2005. *Empire of the Senses: The Sensual Culture Reader*. Oxford: Berg.

Howes, David. 2006. “Charting the Sensorial Revolution.” *The Senses and Society* 1 (1): 113 128.

Howes, David, and Constance Classen. 2014. *Ways of Sensing: Understanding the Senses in Society.* New York: Routledge.

Huron, D., and Margulis, E. H. 2011. “Music Expectancy and Thrills.” In *Handbook of Music and Emotion: Theory, Research, Applications*, edited by P. N. Juslin and J. A. Sloboda, 575-604. New York: Oxford University Press.

Hwang, Inwook, Hyungki Son, and Jin Ryong Kim. 2017. "AirPiano: Enhancing Music Playing Experience in Virtual Reality with Mid-air Haptic Feedback," *2017 IEEE World Haptics Conference (WHC)* 213-218.

Ingold, Tim. 2011. “Anthropology is Not Ethnography.” In *Being Alive: Essays on Movement, Knowledge, and Description,* 229-244. London: Routledge.

———. 2017. “On Human Correspondence.” *Journal of the Royal Anthropological Institute* 23 (1): 9-27.

———. 2021. *Correspondences*. Cambridge, UK: Polity.

Jang, Yeonok. 2001. “P'ansori Performance Style: Audience Responses and Singers’ Perspectives.” *British Journal of Ethnomusicology* 10 (2): 99-121.

Johanson, Katya. 2013. “Listening to the Audience: Methods for a New Era of Audience Research.” In *The Audience Experience: A Critical Analysis of Audiences in the Performing Arts,* edited by Jennifer Radbourne, Hilary Glow, and Katya Johanson, 160-171. Bristol, UK: Intellect.

Jones, Angela Cresswell, and Rebecca Jane Bennett, eds. 2015. *The Digital Evolution of Live Music*. Elsevier Science.

Jones, Mari Riess. 2019. *Time Will Tell: A Theory of Dynamic Attending*. Oxford, England: Oxford University Press.

Jones, Matthew. 2014. *Researching Organizations: The Practice of Organizational Fieldwork*. London: SAGE Publications Ltd.

Kaplan, Danny. 2018. *The Nation and the Promise of Friendship: Building Solidarity through Sociability*. Palgrave Macmillan.

Kastrenakes, Jacob. 2020. “Lil Nax X’s Roblox Concert was Attended 33 Million Times: It’s Up There with Fortnite’s Travis Scott Performance.” *The Verge* (blog), November 16. https://www.theverge.com/2020/11/16/21570454/lil-nas-x-roblox-concert-33-million views

Katz, Mark. 2004. *Capturing Sound: How Technology Has Changed Music*. Berkeley: University of California Press.

Keil, Charles. 1966. “Motion and Feeling Through Music.” *Journal of Aesthetics and Art Criticism* 24 (3): 337-349.

———. 1987. “Participatory Discrepancies and the Power of Music.” *Cultural Anthropology* 2 (3): 275-283.

———. 1995. “The Theory of Participatory Discrepancies: A Progress Report.” *Ethnomusicology* 39 (1): 1-19.

Keller, James M. 2017. “Musical Movement: Joshua Bell.” https://www.santafenewmexican.com/pasatiempo/music/classical_music/musical-movement-joshua-bell/article_0da0dc00-3103-5265-a109-c9970ab7019a.html?mode=image&photo=0

Kennedy, Joyce, Michael Kennedy, and Tim Rutherford-Johnson (eds.). 2012. "Bravo." In *The Oxford Dictionary of Music,* 6th ed. Oxford University Press. https://www.oxfordreference.com/view/10.1093/acref/9780199578108.001.0001/acref-9780199578108-e-1301

Kjus, Yngvar. 2018. *Live and Recorded: Music Experience in the Digital Millennium*. Pop Music, Culture and Identity. Cham: Springer International Publishing.

Klette-Bøhler, Kjetil. 2013. “Groove Aesthetics in Afro-Cuban Jazz: Towards an Empirical Aesthetic Theory.” *Studia Musicologica Norvegica* 39: 63–92.

Knopper, Steve. 2018. “Artists to Fans: Put Your Phones Away!” *Rolling Stone,* February 28. Accessed January 26, 2019. https://www.rollingstone.com/music/music-features/artists-to-fans-put-your-phones-away-202263/

Kollars, Deb. 2002. “Ancient Wood Sings in New Hall.” *Sacramento Bee,* August 5: A1. Accessed June 1, 2017. http://infoweb.nesbank.com/resources/doc/nb/news/0F53D70042F6C1B4A?p=WORLDNEWS.

Koppensteiner, Markus, Pia Stephan, and Johannes Paul Michael Jäschke. 2015. “From Body Motion to Cheers: Speakers’ Body Movements as Predictors of Applause.” *Personality and Individual Differences* 74: 182-85.

Kramer, Jonathan D. 1988. *The Time of Music: New Meanings, New Temporalities, New Listening Strategies*. New York: Schirmer Books.

Krewson, Percy E. 1945. *Instrumental Music.* Stone-Campbell Books. 214. https://digitalcommons.acu.edu/crs_books/214

Küller, Rikard, Seifeddin Ballal, Thorbjörn Laike, Byron Mikellides, and Graciela Tonello. 2006. “The Impact of Light and Colour on Psychological Mood: A Cross-Cultural Study of Indoor Work Environments.” *Ergonomics* 49 (14): 1496–1507.

Lambert, Patricia D. and Robyn Williams. 2017. “The Professionalization of Performing Arts Center Management.” In *Performing Arts Center Management,* edited by Patricia Dewey Lambert and Robyn Williams, 1-19. New York: Routledge.

Lanier, Jaron. 2017. *Dawn of the New Everything: Encounters with Reality and Virtual Reality* First edition. New York: Henry Holt and Company.

Latulipe, Celine, Erin Carroll, and Danielle Lottridge. 2011. "Love, Hate, Arousal and Engagement: Exploring Audience Responses to Performing Arts." In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 1845–1854.

Laver, Mark. 2020. "Dinner Jazz: Consumption, Improvisation, and the Politics of Listening." *Jazz Perspectives* 12 (3): 291–310.

Le Bon, Gustave. (1895) 2009. *The Crowd: A Study of the Popular Mind*. Auckland, N.Z: Floating Press.

Lee, Tanya. 2011. "Music as a Birthright: Chicago's Old Town School of Folk Music and Participatory Music Making in the Twenty-First Century." Ph.D. Dissertation, University of Illinois at Urbana-Champaign.

LeGates, Tara A, Diego C Fernandez, and Samer Hattar. 2014. "Light as a Central Modulator of Circadian Rhythms, Sleep and Affect." *Nature Reviews Neuroscience* 15 (7): 443–454.

Leman, Marc. 2008. *Embodied Music Cognition and Mediation Technology*. Cambridge, Mass.: MIT Press.

MacCallum-Stewart, Esther, and Justin Parsler. 2008. "Role-Play vs. Gameplay: The Difficulties of Playing a Role in World of Warcraft." In *Digital Culture, Play, and Identity: A World of Warcraft Reader*, edited by Hilde G. Corneliussen and Jill Walker Rettberg, 225-246. Cambridge, MA: MIT Press.

Marcus, George E., and Michael Fisher. 1986. *Anthropology as Cultural Critique: An Experimental Moment in the Human Sciences.* Chicago, IL: University of Chicago Press.

McCarthy, Kevin F., and Kimberly Jinnett. 2001. *A New Framework for Building Participation in the Arts.* Santa Monica: Rand Corporation.

McCrae, Robert. 2007. "Aesthetic Chills as a Universal Marker of Openness to Experience." *Motivation and Emotion* 31 (1): 5-11.

McGraw, Andrew. 2016. "Atmosphere as a Concept for Ethnomusicology: Comparing the Gamelatron and Gamelan." *Ethnomusicology* 60 (1): 125-147.

McKenzie, Jordan, Roger Patulny, Rebecca Olson, and Marlee Bower. 2022. "Mass Emotional Events: Rethinking Emotional Contagions after COVID-19." In *Dystopian Emotions: Emotional Landscapes and Dark Futures,* edited by Jordan McKenzie and Roger Patulny, 71-88. Bristol, England: Bristol University Press.

McPhail, Clark. 1991. *The Myth of the Madding Crowd*. New York: A. de Gruyter.

Meer, Wim van der. 2014. “Audience Response and Expressive Pitch Inflections in a Live Recording of Legendary Singer Kesar Bai Kerkar.” In *Expressiveness in Music Performance: Empirical Approaches across Styles and Cultures*, edited by Fabian, Dorottya, Renee Timmers, and Emery Schubert, 170-184. 1st ed. Oxford; New York: Oxford University Press.

Meintjes, Louise. 1990. “Paul Simon’s Graceland, South Africa, and the Mediation of Musical Meaning.” *Ethnomusicology* 34 (1): 37–73.

———. 2003. *Sound of Africa! Making Music Zulu in a South African Studio*. Durham: Duke University Press.

Merleau-Ponty, Maurice. 2012. *Phenomenology of Perception*. Translated by Donald A. Landes Abingdon, Oxon: Routledge.

Merriam, Alan P. 1964. *The Anthropology of Music.* Evanston, IL: Northwestern University Press.

Moore, Robin D., and Walter Aaron Clark. 2012. *Musics of Latin America*. First edition. New York: W.W. Norton & Company.

Morens, David M., Gregory K. Folkers, and Anthony S. Fauci. 2009. “What Is a Pandemic?” *The Journal of Infectious Diseases.* 200 (7): 1018–21. http://www.jstor.org/stable/27794175.

Murray, Janet Horowitz. 1997. *Hamlet on the Holodeck: The Future of Narrative in Cyberspace*. New York: The Free Press.

Nagro, Anne, Onjeinika Brooks, and Rachel Casey. 2022. “What is an ISP?” *U.S. News 360 Reviews.* May 23. Accessed May 26, 2022. https://www.usnews.com/360-reviews/services/internet-providers/what-is-isp

Nancy, Jean-Luc. 2007. *Listening*. Translated by Charlotte Mandell. New York: Fordham University Press.

Nettl, Bruno. 1995. *Heartland Excursions: Ethnomusicological Reflections on Schools of Music*. Urbana: University of Illinois Press.

———. 2005. “Come Back and See Me Next Tuesday: Essentials of Fieldwork.” In *The Study of Ethnomusicology: Thirty-one Issues and Concepts*, 133-148. New Ed. Urbana: University of Illinois Press.

Newfield, Christopher. 2003. *Ivy and Industry: Business and the Making of the American University, 1880-1980*. Durham, NC: Duke University Press.

Nusbaum, E. C., and Silvia, P. J. 2011. “Shivers and Timbres Personality and the Experience of Chills from Music.” *Social Psychological and Personality Science* 2 (2): 199–204.

Nusbaum, E. C., Silvia, P. J., Beaty, R. E., Burgin, C. J., Hodges, D. A., and Kwapil, T. R. 2014. “Listening Between the Notes: Aesthetic Chills in Everyday Music Listening.” *Psychology of Aesthetics, Creativity, and the Arts* 8 (1): 104–109.

O'Connell, Daniel C, and Sabine Kowal. 2008. “Applause and Other Audience Reactions.” In *Communicating with One Another Toward a Psychology of Spontaneous Spoken Discourse*. Cognition and Language: A Series in Psycholinguistics. New York, NY: Springer New York.

Park, Sae-ra, Jiyeon Han, Yeong Min Yeon, Na Young Kang, and Eunjoo Kim. 2021. “Effect of Face Mask on Skin Characteristics Changes During the COVID-19 Pandemic.” *Skin Research and Technology* 27 (4): 554–559.

Pearson, Mike and Michael Shanks. 2001. *Theatre/Archaeology*. London: Routledge.

Pink, Sarah. 2015. *Doing Sensory Ethnography*. 2nd edition. London: Sage Publications.

Polivtseva, Elena. 2020. “Performing Arts in Times of the Pandemic: Status Quo and the Way Forward.”*International Network for Contemporary Performing Arts.* March28. Accessed March 21, 2021. https://www.ietm.org/en/system/files/publications/performing_arts_in_times_of_the_pandemic_0.pdf

Polzonetti, Pierpaolo. 2021. *Feasting and Fasting in Opera: from Renaissance Banquets to the Callas Diet*. Chicago: University of Chicago Press.

Rahaim, Matthew. 2012. *Musicking Bodies Gesture and Voice in Hindustani Music*. Middletown, CT: Wesleyan University Press.

Rice, Timothy. 2014. *Ethnomusicology: A Very Short Introduction*. Oxford and New York: Oxford.

Riches, Gabrielle. 2011. “Embracing the Chaos: Mosh Pits, Extreme Metal Music and Liminality.” Journal for Cultural Research 15 (3): 315–32. doi:10.1080/14797585.2011.594588.

Roholt, Tiger C. 2014. *Groove: A Phenomenology of Rhythmic Nuance.* New York and London: Bloomsbury.

Rosselli, John. 2002. “Claque.” *Grove Music Online*. Accessed September 18, 2020. https://www.oxfordmusiconline.com/grovemusic/view/10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-5000002398.

Sakthivel, M. 2020. *Broadcasters' Rights in the Digital Era: Copyright Concerns on Live Streaming*. Leiden: Brill Nijhoff.

Salinas, Brenda. 2016. "In Mariachi Music, a Distinctive Yell Speaks to the Soul." *NPR, Code Sw!tch*, August 23. Accessed October 13, 2020. https://www.npr.org/sections/codeswitch/2016/08/23/488502412/in-mariachi-music-a-distinctive-yell-speaks-to-the-soul

Satterthwaite, Ann. 2016. *Local glories: Opera Houses on Main Street, Where Art and Community Meet*. New York, NY: Oxford University Press.

Scheuring, Ann Foley. 2001. *Abundant Harvest: The History of the University of California, Davis*. Davis, CA: UC Davis History Project, 2001.

Schifferstein, Hendrik N.J, and Peeter W.J Verlegh. 1996. "The Role of Congruency and Pleasantness in Odor-Induced Taste Enhancement." *Acta Psychologica* 94 (1): 87–105.

Schmidt, Ulrik. 2013. "Ambience and Ubiquity." In *Throughout: Art and Culture Emerging with Ubiquitous Computing,* edited by Ulrik Ekman, 175-187. Cambridge: The MIT Press.

Schoenberg, Arnold. (1950) 2014. *Style and Idea*. Philosophical Library/Open Road. Accessed February 17, 2019. ProQuest Ebook Central.

Schütz, Alfred. 1951. "Making Music Together: A Study in Social Relationship." *Social Research* 18 (1): 76-97.

Sedgwick, Eve Kosofsky. 2003. *Touching Feeling: Affect, Pedagogy, Performativity*. Durham: Duke University Press.

Seeger, Charles. 1977. "Speech, Music, and Speech about Music." In Seeger, *Studies in Musicology 1935-1975*, 16-30. Berkeley: University of California Press.

Shelemay, Kay Kaufman. 2011. "Musical Communities: Rethinking the Collective in Music." *Journal of the American Musicological Society* 64 (2):349-390.

Shields, Rob. 2003. *The Virtual.* London: Routledge.

Sikali, Kevin. 2020. "The Dangers of Social Distancing: How COVID-19 Can Reshape Our Social Experience." *Journal of Community Psychology* 48 (8): 2435–2438.

Silvia, P., and Nusbaum, E. 2011. "On Personality and Piloerection: Individual Differences in Aesthetic Chills and Other Unusual Aesthetic Experiences." *Psychology of Aesthetics, Creativity, and the Arts* 5: 208–214.

Sloboda, J. A. 1991. "Music Structure and Emotional Response: Some Empirical Findings." *Psychology of Music* 19*:* 110–120.

Small, Christopher. 1998. *Musicking: The Meanings of Performing and Listening*. Middletown, CT: Wesleyan University Press.

Small, Dana M, Joel Voss, Y. Erica Mak, Katharine B Simmons, Todd Parrish, and Darren Gitelman. 2004. "Experience-Dependent Neural Integration of Taste and Smell in the Human Brain." *Journal of Neurophysiology* 92 (3): 1892–1903.

Smith, William, ed. 1849. *A School Dictionary of Greek and Roman Antiquities* 2nd edition. Boston: Charles C. Little, and James Brown.

Society for Ethnomusicology (SEM). 2022. "About Ethnomusicology." Accessed March 16, 2022. https://www.ethnomusicology.org/page/AboutEthnomusicol

Sørensen, Inge Ejbye. 2016. "The Revival of Live TV: Liveness in a Multiplatform Context." *Media, Culture & Society* 38 (3): 381-99. https://doi.org/10.1177/0163443715608260.

Spence, Charles. 2015. "Just How Much of What We Taste Derives from the Sense of Smell?" *Flavour (London)* 4 (1).

———. 2021a. "Musical Scents: On the Surprising Absence of Scented Musical/Auditory Events, Entertainments, and Experiences." *i-Perception (London)* 12 (5): 1–31.

———. 2021b. "Scent in the Context of Live Performance." *i-Perception (London)* 12 (1): 1–28.

Spiller, Henry. 2004. *Gamelan: The Traditional Sounds of Indonesia*. ABC-CLIO World Music Series. Santa Barbara, California: ABC-CLIO.

Stage, Carsten. 2013. "The Online Crowd: A Contradiction in Terms? On the Potentials of Gustave Le Bon's Crowd Psychology in an Analysis of Affective Blogging." *Distinktion (Aarhus)* 14 (2): 211–226.

Statt, Nick. 2018. "NextVR is Making its VR Recordings of Live Events Feel Much More Realistic." *The Verge* (blog), January 8. https://www.theverge.com/2018/1/8/16862048/nextvr-six-degrees-of-freedom-augmented-reality-events-ces-2018

Steele, Anne and Sarah E. Needleman. 2021. "Concerts Have a Winner from the Covid Era: The Roblox Avatar." *Wall Street Journal,* October 4. https://www.wsj.com/articles/twenty-one-pilots-in-concertas-roblox-avatars-11633282887

Stokes, Martin, ed. 1994. *Ethnicity, Identity, and Music: The Musical Construction of Place*. Oxford: Berg.

Strauss, Neil. 1998. “A Concert Communion with Cell Phones; Press 1 to Share Song, 2 for Encore, 3 for Diversion, 4 to Schmooze.” *New York Times*. New York, N.Y: New York Times Company, Late Edition (East Coast) edition.

Sullivan, Jim. 2020. “Clubs in Crisis: Artists and Indie Venues on the Future of Live Music Post COVID.” *Flood Magazine.* July 28. Accessed March 21, 2021. https://floodmagazine.com/79834/clubs-in-crisis-niva-covid/

Swarbrick, Dana, Dan Bosnyak, Steven R. Livingstone, Jotthi Bansal, Susan Marsh-Rollo, Matthew H. Woolhouse, and Laurel J. Trainor. 2019. “How Live Music Moves Us: Head Movement Differences in Audiences to Live Versus Recorded Music.” *Frontiers in Psychology* 9: 2682.

Taylor, Diana. 2003. *The Archive and the Repertoire.* Durham: Duke University Press.

Taylor, Timothy D. 2005. “Music in the Rise of Radio in Twenties America: Technological Imperialism, Socialization, and the Transformation of Intimacy.” In *Wired for Sound: Engineering and Technologies in Sonic Cultures,* edited by Porcello, Thomas and Paul D. Greene, 245-268. Middletown, Conn.: Wesleyan University Press.

Thomas, Mark Daman. 2020. “Digital performances Livestreaming music and the documentation of the creative process.” In *The Future of Live Music* edited by Ewa Mazierska, 83-96. Les Gillon, and Tony Rigg. New York: Bloomsbury Academic & Professional.

Toelle, Jutta, and John A Sloboda. 2021. “The Audience as Artist? The Audience’s Experience of Participatory Music.” *Musicae Scientiae* 25 (1): 67–91.

Trowler, Vicki. 2010. *Student Engagement Literature Review*. York: The Higher Education Academy.

Tsitsos, William. 1999. “Rules of Rebellion: Slamdancing, Moshing, and the American Alternative Scene.” *Popular Music* 18 (3): 397–414. doi:10.1017/S0261143000008941.

Tuan, Yi-Fu. 1977. *Space and Place: The Perspective of Experience*. Minneapolis: University of Minnesota.

Turino, Thomas. 2008. *Music as Social Life: The Politics of Participation*. Chicago Studies in Ethnomusicology. Chicago: University of Chicago Press.

Turner, Victor W. 1969. *The Ritual Process: Structure and Anti-structure.* Chicago: Aldine.

———. 1974. “Liminal to Liminoid in Play, Flow, And Ritual: An Essay in Comparative Symbology.” *Rice University Studies* 60 (3): 53-92.

Vanderhoef, Larry N. 2015. *Indelibly Davis: A Quarter-Century of UC Davis Stories. . . And Backstories*. Medford, Oregon: CDS Publications. http://escholarship.org/uc/ucdavischancelloremeritus_books

Van Zile, Judy. 1988. "Examining Movement in the Context of the Music Event: A Working Model." *Yearbook for Traditional Music* 20: 125–33. https://doi.org/10.2307/768169.

Ventura, Susana. 2016. "Towards an Intensive Architecture: How Do We Compose Intimacy, in Architecture?" *In* Correia, Carlos João (ed.); *Philosophy @ Lisbon: International eJournal, Special Number - Philosophy & Architecture*. Lisboa: Centro de Filosofia da Universidade de Lisboa 5: 161-175. ISSN: 2182-4371.

Weingarten, Gene. 2007. "Pearls Before Breakfast: Can One of the Nations Great Musicians Cut Through the Fog of a DC Rush Hour? Let's Find Out." *The Washington Post,* April 8. Accessed March 9, 2021. https://www.washingtonpost.com/lifestyle/magazine/pearls-before-breakfast-can-one-of-the-nations-great-musicians-cut-through-the-fog-of-a-dc-rush-hour-lets-find-out/2014/09/23/8a6d46da-4331-11e4-b47c-f5889e061e5f_story.html

Williams, Sean. 2006. *The Ethnomusicologists' Cookbook: Complete Meals from Around the World*. London: Routledge.

Winckel, Fritz. 1967. *Music, Sound, and Sensation.* Translated by Thomas Binkley. New York: Dover.

Wolff, Steven A. 2017. "The Evolution of the Performing Arts Center: What Does Success Look Like?" In *Performing Arts Center Management,* edited by Patricia Dewey Lambert and Robyn Williams, 20-44. New York: Routledge.

Yi, Hoyoung, Ashly Pingsterhaus, and Woonyoung Song. 2021. "Effects of Wearing Face Masks While Using Different Speaking Styles in Noise on Speech Intelligibility During the COVID-19 Pandemic." *Frontiers in Psychology* 12: 682677–682677.