Music, Healing, and Conflict: Balancing Science and Intuition

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Music, Healing, and Conflict: Balancing Science and Intuition
Marisa Massery

PIM 75
A Capstone Paper submitted in partial fulfillment of the requirements for a Master of Arts in Intercultural Service, Leadership, and Management at the SIT Graduate Institute in Brattleboro, Vermont, USA.

December 2017
Advisor: Mokhtar Bouba
Music, Healing, and Conflict

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Music, Healing, and Conflict

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Abstract

Music moves us personally and with more meaning than any other medium in the world. In the past few decades, modern advances in neuroscience have proved via neuroimaging that musical processing involves almost every region of the brain, a task that no other stimulus can achieve. Science can show what is happening in our brain, but humans have intuitively known and utilized music for healing purposes since the beginning of humanity. This research examines the dynamics of continued scientific advancement in light of Non-Western ways of knowing. The study is an attempt to shorten the distance between music, healing and conflict. Through a qualitative research methodology, the correlation of music and healing was explored by interviewing musicians and healing practitioners in New England. Musicians and healers shared stories that help explain the role of music and healing in Western society and how they might transform conflict. This paper offers space for the peacebuilder interested in music and healing to pause and consider the weight of their work.
I wish I could speak like music.  
I wish I could put the swaying splendor  
Of the fields into words  
So that you could hold Truth  
Against your body  
And dance.  
I am trying the best I can  
With this crude brush, the tongue,  
To cover you with light.  
I wish I could speak like divine music.  
I want to give you the sublime rhythms  
Of this earth and the sky's limbs  
As they joyously spin and surrender,  
Surrender  
Against God's luminous breath.  
Hafiz wants you to hold me  
Against your precious  
Body  
And dance,  
dance.  

-Hafiz Shirazi (1315-1390)

Prelude: Introduction

To define music as an entity and to explain how it moves us as we live and solve problems is a difficult task. As Hafiz Shirazi writes in his poetry, we wish we could speak like music because it moves us more personally and with more meaning than anything else in the world. Without fully understanding why and how it moves me, singing and playing music has been a grounding force in my life. It brings me home to myself, to my true expression, and to my connection with others and the divine. I know the positive effects that music has on me, but I also know that it moves others in their own distinct ways throughout space and time. After entering the world of peace studies, I became curious about how music is connected to
transforming conflict. In a world plagued with war, unspeakable violence, and the complexities of trauma, I felt drawn to explore the healing effects of music in peacebuilding.

From September 2016 to January 2017, under the leadership of a certified music therapist, Norton Women and Children’s Hospital in Louisville, Kentucky, conducted a study that treated infants born with neonatal abstinence syndrome (wlky.com, 2017). Babies that were suffering from tremors, irritability, poor sleep and poor feeding due to their opioid addictions were all given therapy in the form of a pacifier activated lullaby to soothe their symptoms. The therapy was described as a non-pharmacological mechanism that proved successful during the babies’ withdrawal process (wlky.com, 2017).

On July 25, 2017, a local news station in Louisville aired a two-and-a-half-minute video about this study, entitled, “State of Addiction: Music Therapy Helps Opioid Addicted Babies” (wlky.com). This video became viral on social media and was shared thousands of times. When friends on Facebook shared the video, I was intrigued for two reasons. First, I was intrigued by the content of the study. What kind of music were the babies being exposed to? Were the songs instrumental or did the lullabies include lyrics? If this study took place in another country, would the music have to change? In other words, what tones or combination of tones are comforting, soothing and possibly healing to humans? Is that music dependent on the individual, the culture, or the universe? My second area of intrigue came from the way that people responded to the video. Everyone who shared the story, myself included, did so with awe and amazement at the contribution of science to modern healthcare. At second glance, however, I thought to myself that of course it makes sense that music can help these infants. Babies have been soothed with music, intuitively, since the beginning of time. Why are we so surprised when a study with a new technology proves this?
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According to Daniel Levitin (2006), a music scholar and neuroscientist from the United States, music is unusual for both its “ubiquity and its antiquity” (p. 5). In other words, music is everywhere and always has been. I realized that Levitin’s words not only apply to music, but also to conflict. Just as music is a part of what makes us human, so is conflict. It is everywhere and always has been. We are born into conflict as babies and engage in conflict for the rest of our lives, whether at an interpersonal, group, communal, national or international level (Dayton, 2016). Conflict is a part of our human experience.

Just as various cultures have different understandings and definitions of music, various cultures have different ideas of defining and dealing with conflict. Michelle Lebaron (2006), an author and conflict transformation practitioner, defines conflict as “A difference between two or more people that touches them where they make meaning and experience their identity” (p. 1). Peace Practitioner Johan Galtung (1969) describes conflict as an incompatibility of goals pursued by two or more parties. In one of my first classes in conflict transformation, we were exposed to the idea that transforming conflict requires the imagining of a social space that meets the core needs and goals of all parties involved (Arai, personal communication, 2015). As a musician, I believe that one of the potentials of music lies in its ability to create a unique social space.

It is important to remember that music is not inherently good, and conflict is not inherently bad. While music can contribute to healing and to peace, music can also contribute to violence and war. Conflict can cause various levels of violence, but when transformed constructively, it can lead to growth. The two are much like fire: depending on how you use them, they can either help you or you can be burned.

During my preliminary research, I came across paper after paper that lamented the minimal scholarship and interventions that exist on the topic of music and conflict. Peace
practitioners believe there is room for growth in connecting processes of constructive change to music and the arts. Literature integrating the topics remains sparse, but every culture throughout humanity has used music for transformative and healing purposes, although they may not necessarily categorize their activities as interventions. As technology continues to advance exponentially, the Western world has focused on using evidence-based science to prove the effectiveness of any intervention or activity. Just as the silence between musical sound holds equal importance as the sounds themselves, this paper is as an attempt to pause and reflect on how we may accept science yet respect the intuition that our ancestors and so many other cultures around the world already have towards music and healing.

Each of the tenets of this paper, namely (1) music, (2) healing, and (3) conflict are vast and multidisciplinary topics that deserve more attention than this paper or my mind can give. The intent is not to provide specific ideas for musical interventions, but rather to explore the correlation between music and healing and shorten the distance between the realms, highlighting possible gaps that need attention or bridging. Through interviews with musicians and healers, this research is an attempt to gain insight from individuals who live and breathe the topics. Although the research focuses on the experience and wisdom of experts in their fields, we all have the capacity to be musicians, peacebuilders and healers.

**Recorded Voices: A Literature Review**

The voices explored below have been published in the world of academia. These authors’ ideas are not the only voices that exist. Much knowledge and wisdom exist beyond the Western world of publishing. We must leave space for these non-recorded voices. To shorten the distance between music, healing and conflict, this literature review will explore the following areas:
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(1) the connection of neuroscience to music, (2) a philosophy and understanding of music in society, (3) an understanding of trauma, and (4) the idea of healing as aural.

**Voice of Modern Technology: On Neuroscience and Music**

Our generation, as well as our parents, grandparents and great-grandparents have known the unique role and intimate connection that music has played in our lives. In the past thirty years, however, there has been a significant increase and discovery into the mechanisms of music on the human brain (Sacks, 2007). With the advancements of technologies in neuroscience, researchers have been able to understand the exact structures and functions involved in various musical activities.

Neuroimaging has revealed some fascinating things about the brain and music. For example, music mimics some of the features of language, but the music systems in the brain operate functionally independent from the systems involved in language (Levitin, 2006). Music can thus access parts of the motor cortex that speech cannot. The auditory cortex, or the part of our brain responsible for listening, is just as active when we are imagining music as when we are listening to it (Sacks, 2007, p.34). Neuroimaging has proven that musical processing involves almost every region of the brain, something no other stimulus or cognitive process can do (Ovary, Molnar-Szakacs, 2006). While music’s effects on the brain are innumerable and beyond the scope of this paper, the following section will focus on the newly researched realm of Mirror Neurons.

**Mirror Neurons**

In 1994, a group of Italian Scientists, led by Giacomo Rizzolatti at the University of Parma, accidentally discovered a special class of brain cells that they claim have changed the way we think about human understanding, connecting and learning (Rizzolatti et al, 2006).
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scientists were tracking precise neurons that fire in Macaque monkey brains during actions such as picking up a peanut and grasping a banana. When one of the experimenters was replenishing food in the cage, the monkey's brain cells fired as if it was performing the action itself. By simply watching the researcher, the monkey’s brain was mirroring the action. Subsequent research by these scientists as well as several others in the field have proposed a similar system in humans.

Although still considered to be in the early stages of research, the system explains why we cringe when someone near us gets stung by a bee, why we get grossed out when we see someone drink sour milk, why our hearts start to race when a runner crosses the finish line, and why we instantly understand the action and intention of a friend who bends down in the grass to pick a flower (Rizzolatti et al, 2006; Winerman, 2005). Described by some as mind reading neurons or neural wi-fi, mirror neurons allow us to perceive not only another person’s movement but also their emotional state and intentions (Kolk, 2014). Rizzolatti explains that before the discovery of mirror neurons, psychologists and neuroscientists attributed these reactions to a rapid reasoning process: we take in information from our senses, our brain compares that information to similar stored experience, and then we arrive at conclusions. The human mirror neuron system provides a different explanation:

The theory holds that at a basic, unconscious, and automatic level, understanding the actions, intentions and emotions of another person does not require that we explicitly think about them- our brain has a built-in mechanism for feeling them as we feel our own intentions, actions, and emotions. (Ovary, Molnar-Szakacs, 2006, p. 491)

Katie Ovary and Isaac Molnar-Szakacs, scientists from the University of Edinburgh, have been researching the implications of a human mirror neuron system on musical experience. In their 2009 article “Being Together in Time,” they explain that the excitement in the discovery of a human mirror neuron system lies in the idea that the brain is not functioning as an “isolated
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stimulus-response perception-action machine” (Ovary, Molnar-Szakacs, 2006, p. 492), but that (1) the function of the brain is connected to the body, and (2) the brain has evolved to interact with and understand other brains. This system sheds new light on musical communication, shifting consideration from qualities of the sound like pitch and rhythm to the goals, intentions and shared representations of the music. They propose that music is not just a passive, auditory stimulus, but rather an “engaging, multisensory, social activity” (p. 489). Although we perceive music as an auditory signal, we also perceive it as intentional, hierarchically organized sequences of expressive motor acts behind the signal (p. 489).

Using a model called the Shared Affective Motion Experience (SAME), these two researchers say that our human mirror neuron system allows for both a co-representation and sharing of a musical experience between agent and listener. Music conveys a sense of agency and “a sense of the presence of another person, their actions and their affective state” (p. 494). They argue that the essence of musical experience lies in human interaction, not the nature of the acoustical signal or the performance of complex motor skills.

Ovary and Molnar-Szakacs conclude that regardless of the music’s function or style, it provides “an auditory representation of the presence of another person or social group, including both immediate and abstracted information about their physical and emotional state” (2006, p. 499). Someone listening to music experiences the pleasing auditory signal, but they also get a sense that they are not alone. When it comes to group performance, the SAME model suggests the potential for a synchronized, affective experience that creates the feeling of being together. Lastly, they predict that the most universally effective type of music-making is the naturally occurring kind such as learning and singing a song in a group. They say that musical behaviors that have evolved, like playing an instrument from notation, will have more limited effects. In
light of mirror neurons, these researchers encourage us to understand music differently: not as sound that is organized by humans, but rather humans that are organized by sound (Ovary, Molnar-Szakacs, 2006).

**Voice of Evaluation: Music as Noun or Verb?**

In my life as a musician, I have led people in a chorus various times. Whenever I first meet with a group, I like to ask, by raise of hand, “who is a musician?” A few hands, maybe one or two, will go up. I get the same response when I ask, “who is a singer?” But when I shift the question and ask, “who likes to sing or play music in some way?” almost everyone raises their hands. When I switch my question from an object to a verb, from a label to an action, it makes all the difference. Many people feel insecure with being labeled as a musician, but have no problem admitting that they like to engage with music.

This distinction seems subtle, but it reveals much about how Western society categorizes music. Twentieth Century Music philosopher, Christopher Smalls, of New Zealand, has spoken and written about this very subject. Smalls claims that music is not a noun or a thing, but rather a verb and an action (Smalls, 1998). In his theory, Smalls coined the term *musicking*: “To music is to take part, in any capacity, in a musical performance, whether by performing, by listening, by rehearsing or practicing, by providing material for performance (this is called composing), or by dancing” (1998, p. 9). This understanding of music makes no distinction between active performers and passive listeners: everyone is involved and bears a responsibility. Smalls acknowledges that certain people may be more musical than others, and that their role is to become leaders in their communities.

Smalls says that the meaning of *musicking* is rooted in the relationships it brings about. The “stuff” of music, i.e. the relationships between the organized sounds, still exist, but the
connections between the people taking part are just as important. He says that these relationships “model, or stand as metaphor for, ideal relationships as the participants in the performance imagine them to be: relationships between person and person, between individual and society, between humanity and the natural world and even perhaps the supernatural world” (1995). In other words, to take part in a musical performance is to take part in a ritual that allow us to explore and celebrate of our world as we see it. Therefore, instead of asking, “what is the meaning of this musical work?” we should ask, “what does it mean when this performance takes place at this time, in this place, with these people taking part?”(1995). Smalls says that by framing the question this way, we honor the cultures that do not have such a thing as a musical piece, yet still include those that do. Whether or not we deliberately engage, Smalls says that all musicking is serious musicking and that it is too important to be left to the musicians.

Voices Muted: On Trauma

I attended a workshop in Vermont with a psychotherapist who spoke about her experiences working with Rwandan genocide survivors. One of her clients once admitted to her “it’s almost as though we should call 1994 year one” (A. Thayer, personal communication, 2016). She spoke about the splintering between what was and what will be caused by trauma, and how it results in a new lived reality for those who survive it.

Trauma, which is described as unbearable and intolerable, touches everyone. It affects those that are directly exposed to it as well as the people around them. According to Bessel van der Kolk, MD, medical director of The Trauma Center in Boston, and author of the book The Body Keeps the Score, trauma is “an event that overwhelms the central nervous system and changes the way someone remembers and react to things that remind them of it” (2017). Whether the trauma is a single incident or an abusive environment, it shocks the body to a point where it
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can no longer assimilate, absorb or adjust.

Van der Kolk says that to understand healing, we must understand how the human organism works. Fortunately, neuroscience has helped us understand how trauma changes the structures and activities of the brain. The human brain has three major parts: (1) the cerebral cortex, or the rational/thinking brain, (2) the limbic system, or the emotional brain, and (3) the brain stem, which is our instinctual brain that controls automatic reactions (Yoder, 2005, p. 19). The limbic system and the brain stem are sometimes referred to as the lower brain, while the cerebral cortex is referred to as the higher brain. In a typical situation, the cerebral cortex, or the rational brain, receives information and then processes it through the lower brain. In a traumatic situation, however, the information skips over the cerebral cortex and goes to the limbic system where the amygdala, referred to by one trauma specialist as the brain’s smoke detector, registers the situation as fear and releases stress chemicals and hormones (Van der Kolk, 2014). These interactions activate the flight or fight response in the brain stem and the body goes into a state of hyperarousal. As a result, a trauma survivor in constant flight or fight, moves through the world with a fundamental reorganization of how the mind and body manage perceptions.

To deal with trauma, the West turns to pharmacology for answers and solutions. While antipsychotic drugs have their place with certain patients, they often interfere with motivation, play, curiosity and other qualities necessary for living a healthy, meaningful life. Kolk explains that almost every textbook of psychology has advised that people suffering from trauma talk about their distressed feelings in order to resolve them. He points out the irony in this advice as the rational parts of the survivors’ brains are not functioning as they should, thus inhibiting them from being able to talk about their experiences logically. Instead, Kolk proposes that traumatized people need to learn to integrate ordinary sensory experiences into their lives so that they can
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feel secure and complete in their bodies (2014). Deidre Fay, author of the book *Attachment-Based Yoga and Meditation for Trauma Recovery*, agrees with Kolk when she says in a podcast that a survivor’s verbal story is “less important in some ways than being present, being able to hold the experience in this moment” (Fay, 2017, 19:44). She sees less value in telling the story and more value in integrating the body into therapy. Individuals who experience trauma are moving through the world unable to fully express themselves. They need an experience beyond what their logical minds can understand or express.

**Voice of Resonance: Healing as Aural**

“For twenty-five centuries, Western knowledge has tried to look upon the world. It has failed to understand that the world is not for the beholding. It is for the hearing. It is not legible, but audible.” Jacques Attali

This quote, written by French economist and social theorist, begins the section *The Sonics of Healing* in a book entitled *When Blood and Bones Cry Out* (2010). Written by John Paul Lederach and his daughter, Angela, from the perspective of international peacebuilding, the Lederachs use introspection and metaphor to examine and critique common understandings of healing. They suggest that the nature of healing is not just a one-time occurrence, but rather a permanent continual dynamic of life that needs our constant attention. With the metaphor of healing as aural, they propose that healing has parallel patterns that build on elements of sound.

Their exploration begins with a question about violence, “How do people with collective experiences of violence reconcile and heal from experiences that penetrate below and beyond words?” (2010, p. 2). They suggest that healing must happen socially. They develop the concept of social healing, which they describe as a phenomenon located between micro-healing and a wider collective healing. The process, which they warn is not something that only happens after
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violence ends, focuses on the lived experience of those who have suffered, including both individuals and collective vibrations within a community (2010, p. 101).

Using a metaphor of the Tibetan singing bowl, they provide insight into the workings of social healing. The authors trace the history of the bowl to Buddhist ceremonies, where the sound calls a person to meditation (2010). Skilled practitioners in Tibet, India and Nepal also use the bowls and their vibrations to heal physical conditions. The bowls can be struck on the side, but the best sound is created when the rim of the bowl is circled with a leather or felt covered stick. At first, when the stick circles the rim, the sound is not heard, but once the stick moves at the speed of the natural frequency\(^1\), a tone is played and resonates at length.

The multi-directionality of sound is the first parallel the authors spend time with. The sound from the Tibetan Bowl is created by the circling motion of the rim around the bowl. In many traditions, the circle has a ritualistic quality where the shape creates an intentional space and moment. Secondly, the sound is produced through repetition. While at first it may seem like nothing is happening, the vibrations caused by the repetition reach a frequency that causes the bowl to produce sound. Another part of the metaphor involves the Tibetan Bowl as a container. The bowl creates the space where the sound is made, and the sound rises from the depths of the bowl. As the sound rises, it expands to the surrounding areas, giving the feeling of being touched and held.

Lastly, the Lederachs write about how the search for healing is related to finding a place and sense of belonging. This provides a spatial image that is not linear but rather an image of depth, rootedness, cyclical and seasonal practices, tied to one place (2010, p. 62). Just like the

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\(^1\) The concept of natural frequency is understood in the context of physics of music and sound. See Appendix 2 for more detail.
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Tibetan singing bowl and sound, the Lederachs encourage a shift towards acknowledging healing as a circular, dynamic and continual process.

Research Design

Methodology

Taking a multidisciplinary approach to research, I utilized both critical and interpretive methodologies. A critical approach looks at the power, control and dominant ideologies of our reality and an interpretive methodology values subjectivity over objectivity, interpreting actions and the social meanings that are assigned to those actions (Hesse-Biber & Leavey, 2006). I also turned to the work of Professor Linda Tuhiwai Smith, professor of indigenous methodologies in New Zealand. With these lenses, qualitative research was conducted through semi-structured in-depth interviews.

Participants

When looking at the task of shortening the distance between music, healing and conflict, I felt drawn to the idea of gathering wisdom from people that live and work in the worlds of music and healing. While individuals certainly live and work in the realm of conflict, I wanted to examine music and healing separately in the hopes of understanding them deeper and exploring possible connections to conflict. Two rounds of interviews were conducted, the first round with musicians and the second with healers, or medical practitioners. The ages of the participants ranged from 29 to 75 years old. Of the 13 interviewees, four were women and nine were men. Two musicians performed in non-Western traditions: an Arabic oud player and a Chilean vocalist. Only one of the healers practiced what was thought to be Eastern methods, but ended up inaccurately claiming the title (the dilemma of which is described on p. 42).
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All of the thirteen interviewees were either friends, friends of friends, and current and former colleagues. Some of the musicians I interviewed shared various experiences that led me to create a third group, which I considered to be a crossover category of Musicians/Healers.

Chart 1. Categories of Interviewees

While this categorization was helpful for my organization process, I recognize that pre-prescribing the interviewees may distract from presenting the data in the best way. In the following sections, I do my best to avoid consistent theming and try to let the responses speak for themselves.

Strategies

There were four sources of data and wisdom for this research: literature, media, human subjects/beings and my own personal experience. I was very intentional about trying to meet with all of the interviewees in person. It was important that the interviews happened, as often as possible, over food or drink around a table. Linda Tuhitiwai Smith, in a speech on indigenous research processes, stressed the importance of talking around a table. “The pedagogy of talk,”
she explained, “is framed by the kind of space we are in” (Smith, 2014). I strongly believe that the physical space creates the social space. Of the 13 interviews, two happened over Skype while the remaining 11 happened at a table. Four took place at kitchen tables of the interviewees, while seven at tables in various coffee shops and restaurants selected by the interviewees.

When speaking with the musicians, I wanted to preface our conversation by acknowledging the possible difficulty in articulating my questions with words and not music. In her podcast, *On Being,* Krista Tippett prefaced an interview with Bobby McFerrin, by saying “words can be unfamiliar and blunt tools for people whose principal mode of expression is art” (Tippett, 2017). I kept this concept in mind and started each musician interview with a similar statement, observing the possible challenge in my request for answers in a medium different than their art.

Lastly, I tried to share various ideas and answers from one interview to the next. By sharing the findings, I wanted the interviewees to have a conversation. In some instances, this created a sort of data analysis within a data gathering. For example, I took five responses from one question the musicians answered and shared those responses with a healing practitioner, asking her to interpret the responses using her expertise. This strategy was my alternative way of having a focus group amongst the interviewees. I wanted the individual interviewees to talk to each other by carrying over their stories.

**Positionality and Limitations**

As a vocalist and lover of many things musical, I have strong beliefs about the power of music and the way it moves us as humans. My experience and exposure to music made it possible for me to navigate musical conversations about form, theory, emotion and performance.
All of the musicians I invited were musicians that I had previously performed with or had heard perform in the past. Such a connection might be a limitation because I chose musicians whom I have already connected with musically and personally, possibly preventing diversity of opinion as well as a hindrance in comfort level for interviewees to share opposing views. My desire to have interviews in person and around a table also limited my population to individuals living less than two hours away.

It was important for me to try to have an equitable balance in gender participation as well as a fair representation of individuals from both Western and Eastern backgrounds and experiences. Unfortunately, of the 13 interviewees, only four were women and only nine were men (although this is telling of the typical gender demographic of musicians). Similarly, only two musicians performed in non-Western traditions, and due to a research dilemma, ultimately none of the healers were from Eastern traditions.

I was also limited in my understanding of science and the brain. Some of the scientific articles I found relating mirror neurons and music were difficult to read and understand due to the advanced language of the brain.

**Research Findings**

The following stories are organized into three sections: On Music, On Healing, and On Music and Healing.

**ON MUSIC**

*On Relationship with Music*

I started each interview by asking the musicians to describe their relationship with music. For all of them, music extended beyond their careers and means of making money. The relationship was described by some as being intimately intertwined, integrated, and a central part
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of their lives. One musician started his answer by saying “my being and music are inseparable,” while another described music as being the “past, present and future.” Another musician spoke of her “love hate relationship” with music, saying that the love comes from her ability to engage with it intuitively, but that the hate comes from having to learn theory and notation in school. Another individual said, “I’m a musician, I have to play.” When asked to unpack the statement, he said, “I don’t know, it’s what I do. If I were stripped of all of my musical instruments, and I had nothing to play, I would survive and be ok, but I would probably build a drum set out of trees or something. I wouldn’t stop though.” Similarly, one musician pointed to the table we were sitting at and said, “Music is not just something that is there like this table. It’s something that is imbued within my psyche. . . some of my highest moments I’ve had spiritually have been around music.” Lastly, one musician said clearly and confidently, “Music for me is both the language and the essence of who I am at a soul level.”

When I asked each musician to describe their relationship with music, they responded as if I had asked them the meaning of life. Some of them laughed at the question and sighed at the difficulty in answering it. Because of the meaning that music holds for these musicians, they had a difficult time putting their answers into words. Music is not just a profession or how they contribute to society socially. Although they may do it with their instruments, music is not a thing that the musicians can pick up and put down. Like Smalls says, music is not a noun like the table in our interview. Music is a part of who they are on a physical, emotional, and spiritual level.

On Personal Experience While Playing

When the flow of our interview allowed, I asked the musicians if they could describe in words their internal experience while playing. Their responses always came after a few moments
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of silence or a few deep breaths. I noticed that each musician closed their eyes while answering, as if they were imagining themselves in a particular moment. The descriptions from the five musicians who answered the question are below.

**Musician Responses:**
*How do you describe your experience while playing?*

“IT’s about getting your mind into a different frame, where you’re almost out of your mind... When the audience is clapping and the musicians are playing crazy wild ya know, in synch with one another. I’ve felt this musical ecstasy, this Tarab (Arabic word for musical ecstasy), many many times. It puts you in a, I don’t know how to explain it. It gives you goosebumps, it almost shortens your breath, it’s a wonderful feeling, almost like you’re getting high on the music.” – Musician 1

“I’m feeling the music inside of me, I’m being there, I’m focused, I’m contemplative, I’m feeling the rhythm and the rhythm has a certain propulsion to it and also the harmonic understanding of when you’re singing and playing music together as a group, there’s this sense that the waves are all overlapping.” – Musician 2

“You find a place when you’re just in the music with others and you don’t care about anything else that’s happening- you’re just in it... All these things happen, you’re playing, you’re reacting, you’re throwing out ideas or whatever and then the end of the tune rolls around and I can’t describe any of those decisions. Or even what happened for the most part. It’s a hypnotism on the bandstand.” – Musician 3

“If I’m taking an extended drum solo say- and I find some rhythm that really like- uh- that needs to come through. So I’ll stay there and kind of open up and let whatever needs to come through come through and just be an instrument for it. A lot of times that will come through and it will sustain for a long time. Or not... It’s a knowing, it’s a sense of peace. And it’s a sense of stability and that your body is all tuned to one frequency while it’s happening.” – Musician 4

“There is a deep rest and integration that could occur when I am playing these things- sometimes over and over in repetitive patterns and sometimes just letting the music like stream through me... There’s a pleasure sensation. As the hemispheres go into synchrony, there’s a sense for me that there’s an energy rising up. It’s what they call like the Kundalini, or the creative life force, the chi and the Prana, whatever you wanna call it. So I really feel it coming up through my feet, into my belly and heart. It starts as a fascination, and then the fascination of the mind becomes focused and then all the external things just disappear, and I don’t remember what happened.” – Musician 5

**Chart 2. Musician Responses: Experience Playing**

These descriptions have several similarities. Each mention a synchrony, or connection with self and others. They describe an intense focus, as well as a disappearance of reality beyond the music. Two respondents mention not being able to remember their decisions. The words
“hypnotism” and “ecstasy” were used, suggesting an altered state of awareness. The musicians also described a very clear felt experience in the body, from feeling the rhythm to the physical reaction of the body in goosebumps, shortening of breath and a felt energy in the feet, belly and heart.

Neuroscience tells us that music is a pleasurable reward at a biological level (Kennedy Center, 2017). It recruits circuits in the brain involved in pleasure, reward and arousal, which are the same structures activated by other stimuli like food, sex and drugs. This explains scientifically why musical engagement feel euphoric. Yet in addition to the pleasurable bodily experience, the musicians also go beyond felt sensations. They describe being grounded but also transcendent.

**On Playing with Others**

*How do you describe your experience while playing with other people?*

This question was answered by eight of the interviewees. Their various musical group experiences include small jazz ensembles, popular and folk bands, community singing and Arabic ensembles with dance accompaniment. Living within all of their responses are four separate themes, which I have labeled: Love for Others, Transcending Together, Loss of Self and Time, and Variability of Sound.

**Love for Others**

Usually one of the first things that the interviewees talked about was the joy and love they feel towards the people with whom they played. One musician said that whoever his bandmates are at the time become like another family. A different musician described a feeling of freedom that comes along with playing with people that he knows and trusts, “When I play with my friends,” he said, “I can do anything. Anything goes.” This same musician, whom I play
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with regularly, referenced a song that we performed together in the previous week. He said, “I started with that extended opening and I didn’t stop and think- oh, is Marisa gonna think this is weird? I just played and trusted because I knew that we got this.” Lastly, another musician suggested that for him, playing music with others is a kind of love making. He described this by saying, “As human beings we have that desire to connect, and music opens that opportunity in a non-sexual, safe and intimate way.”

The love that the musicians’ feel for each other has been studied by scientists, looking at the role of oxytocin, a neuropeptide associated with social affiliation (Levitin, 2013). Scientists have hypothesized that musical activities increase oxytocin levels, which gives a neurochemical explanation for why people engaging in music feel love for each other. Of course, musicians that perform do not think about the chemicals their brains release. Though science can tell us about these increased levels of oxytocin, they still do not tell us why music has the power to be so profound.

Transcending Together

All eight musicians talked about the uniqueness of playing in a group. Only within a group situation, they said, can they reach such a level of intensity. Some musicians explained that they can indeed reach a level of transcendence by themselves, but that a group provides a deeper, more profound experience. Three musicians compared the musical experience to meditating, confessing that group meditation is always more powerful than doing it alone. In addition, many musicians clarified that when they play music alone they do it for the purpose of practicing, so that they know the music well enough to be able to better engage with the group. The interviewees described the idea of transcending in the following various ways:
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- “It’s the energy that you can only get from a collaborative process.”
- “When you have people focusing together, there’s a synchronicity that happens that then lifts the experience to something bigger.”
- “We’re all singing and sometimes we just get carried along by the song.”
- “I think everyone is resonating to a certain frequency, and we get to that place, and then it’s almost like the universe plays us and we don’t have to play the music.”

Each musician mentioned that they usually cannot control or predict when this experience happens, but that in an ideal world, it would happen every gig. One musician shared that in these circumstances, he has aligned dynamics with his bandmates, all getting loud or soft at the same time. He explained that one person was not following the other, but rather, they were all following a common being, or what he referred to as the third entity, or the “us” in the room.

The powerful effect of transcendence in a group setting is supported by the existing of mirror neurons as outlined by Ovary and Molnar-Szakacs. Their model suggests that mirror neurons allow for a synchronized affective experience and communication between people playing music together. The system says that when we are musicking, we are not thinking about the other musician’s actions, intentions or emotions, but rather our brain is feeling them as our own. If musicians are in a groove and are all feeling a sense of surrender and elation, those feelings multiply because they are picking up on the feelings of everyone near them.

Loss of Self and Time

A loss of self and/or a loss of time accompany these moments of transcendence. Many musicians commented that minutes and hours would pass by without notice. One musician joked that sometimes after a gig, she is not able to remember where she parked her car. In addition to letting go of the time, many musicians mentioned the need to let go of themselves. Most respondents explicitly used the word “ego,” while one mentioned the need for “selflessness” and another described it as the need to remove the “chips from their shoulders.”
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Once the ego is removed, they said, the experience becomes about listening to each other and surrendering to the whole sound. In order to have an authentic and effortless experience, one musician said that the removal of ego is essential. If everyone is unable to surrender to this idea, the result is noticeable for all involved. One musician gave an example, saying, “I can think of a recent gig where the nectar wasn’t flowing, and it was due to a certain bandmate. He was stepping on toes and being assertive and putting himself before the people and the music.”

The mirror neuron system explains the variability in sound from performance to performance. If each musician is picking up on the emotional experience and intention of the other musicians allows for a transcendent experience as much as it allows for a negative one.

Variability of Sound

Three musicians mentioned the variability of sound that can happen from day to day. Even though their songs may stay the same from one time to the next, the sound can change dependent on the states of the musicians involved. Whether or not a song or gig is a “dud,” may not have to do with the expertise of those playing, but rather with how they show up that day; whether they are sick or hungover or distracted by something else. Bass player A.W. notices this on both the bandstand as well as in the ensemble classes he teaches. He recounts: “Every group of musicians anywhere is gonna have a different balance and shape to it, and identity to it and character to it. And it can even be the same people but just the next day. We’re all living and having different moods or whatever, so that you know, the color of the music is gonna be different.” Ovary, Molnar-Szakacs and Smalls all mention the need to emphasize the shared representations, goals, and intentions among the individuals and relationships involved over the quality of the music that is being played. Their point being that the music cannot be separated from the individuals responsible for creating it.
Music and Connection with Audience

Each of the musicians interviewed talked about how music could help them make connections: with themselves, their bandmates, or the people listening. Three musicians made unique points about connecting with their audience. Drummer C.A. talked about how musicians ought to be aware of the emotions they are sending out to the audience. She explained that if a musician is feeling a certain emotion and then takes that emotion out in the music, the audience receives that energy. She said, “If someone in the audience is not in touch with their sadness, and you play a sad tune, it opens it up and can release it. It can tune into things that need releasing or conscious attention.”

Oud player B.D. turns to his music to make people feel differently by taking them on a journey. During our interview at his kitchen table he asked me, “How do you explain to somebody that you wanna make them feel different and you want them to come and follow you? It’s very hard to do with words! But I can do it with just one song.” He said that once the audience follows the music, they travel somewhere else, whether it is back in time, to their home country or to their childhood. B.D. said he does not know where people go when his music invites them on journeys, but that he believes they are subconsciously changing their attitudes.

Guitarist R.H. explained that he makes music because it has proven to be the most effective way that he knows to communicate with strangers and make a positive difference for a minute or an hour. He expressed concern about the tendency in our society not to connect with others. He concluded, “Interacting with other people is an incredibly important and powerful inroad to empathy, which I think we can all agree, is slipping away from our collective consciousness.”
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These musicians described connections that reach beyond words. In listening to a piece of music, the audience receives the pleasing benefits of the actual sound, but also emotional and social benefits as well. Pianist M.K. also clearly described the role of mirror neurons between audience and listener when he shared, “When I play music for someone, whether live or recorded, they are also getting, in addition to the sound vibrations, embedded personal relationship material from me.”

Repetition and Coming Home

Other subtle themes that were mentioned by various musicians included repetition and “coming home.” Two of the musicians shared that music can bring them home to themselves:

- “When I’m in the middle of the creation process itself, and the music is flowing through me, I have a very distinct sense of who I am.”
- “It kind of tunes you into who you really are. We might get off from our deep sense of who we are, and music may remind us and say ‘That’s who I am, ok! That spoke to me cuz that’s who I really am!’ And in that sense, it brings you back to your center a lot of times.”

Secondly, two other musicians talked about the power of repetition in music. When I asked one of the musicians to describe his most recent transcendent experience while playing, he mentioned cycles and repetition:

Usually you’re supposed to keep the form, which in this song was four beats per measure, but I was feeling good and I had this little lick that I was playing and I kind of found this cycle that was a five or six beat cycle over something four. And I just kept on going around and around on that. And it felt good and it was awesome.

He said that repetition in his soloing helps him focus and get in the groove. Also, in the tradition of jazz, musicians who take solos are essentially repeating parts of the melody, but in various improvised forms.

Vocalist N.B. referenced the time she spent in labor with her son, and her need to have repetitive music and mantras to help her through the pain. She recounted, “Repetition is what
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comes to mind because when you’re going through withdrawal or a situation of pain. You need something to hold you. You don’t need 100 different things- you need to stay here.” She also mentioned that for her son, lullabies have the same effect.

The sense of self that the two musicians described above is a good example of the sense of belonging and place that the Lederachs describe in their book. The metaphor of sound and the search for healing are not linear, but are grounded, rooted experiences tied to one place. The two musicians feel most at home when they are reminded of their true selves. Similarly, the concept of repetition in both cases is not without purpose. The repeated cycles in A.W.’s solo seem to have helped him reach a level of transcendence in his music. Also, N.B.’s use of repetition provides her comfort and the feeling of being safe and held.

When it comes to repetition and a sense of grounding, we can always look to nature for guidance. Ecologist and advocate Rachel Carson said, “There is something infinitely healing in the repeated refrains of nature- the assurance that dawn comes after night, and spring after winter”(1962). The cyclical patterns of nature are a constant reminder that we are born on a planet with distinct rhythms that allows its inhabitants to grow and mature.

Music and Society

Another series of questions revolved around the musicians’ opinions about the role of music in society, mostly in the United States. Some of the critiques or problems that arose touched on the concepts of celebritism, inaccessibility, and consumerism.

As a musician who tours across the country and the world, Guitarist R.H. has walked through many airports with his instrument on his back. The first response his guitar evokes from people in the United States is one of intrigue regarding his fame: “People see a guitar on your back and first they think fame. They think popularity, stages, lights and a career. And that’s not
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necessarily what I feel.” R.H. said that he also experiences a second response of annoyance, as people often complain about the space his guitar takes up in the overhead bin. When work takes him outside of the United States, even in other Western countries, the response he gets from strangers is more welcoming, authentic, and not as celebrity focused.

Bass player A.W. talked about the idea of intention behind listening to music. In the past he has been hired to write jingles for various companies’ video commercials. In one instance, a company that sells wooden particle boards asked him to write music that was: “happy, sounds like positive people and sounds like wood.” He laughed to himself when he first got the request and again when he was relaying the story to me, asking if I had any idea what wood sounded like. He admitted that he told the company he knew just what they were looking for, but that ultimately the qualifiers were about the money, not the music. A.W. explained that although he is not committed musically to commercial projects, they are a good paying gig. Despite his involvement, he personally tries to be cautious of the music around him, knowing that whether or not he is actively listening, the music is always affecting him. He gave the example of a young jazz student who works at a coffee shop that only plays what he refers to as lame jazz over the loudspeakers, “That kid is not gonna have a natural swing, because his tape is constantly running this square thing.” He explained that when the kid tries to practice jazz, he will have an uphill battle because of what he is exposed to. He warned that we all should be more cautious of the delivery and intention of the music, “Are you taking it in or is it being fed to you, ya know?” He then suggested that I check out 97.7 FM if I wanted a trustworthy radio station in the area.

Vocalist N.B. shared an anecdote about a soap opera in Chili that was once loved by everyone but became a joke to watch because exaggerated theme music was played for each distinct scene, whether it was sad, joyous, threatening or romantic. The music was so overplayed
that after a few short seconds, the audience would know what would happen in the scene just based on the song. She shared that the producers must have imagined the audience to be dumb because they put zero effort into the music. The violin part for the romantic scene was so ingrained in her head that she sang it out loud during our interview at the coffee shop.

Vocalist N.B. also shared her frustration with the chasm that exists between musician and non-musician. She spoke about the qualifiers that she believes are unnecessary for being judged a true musician. She said that “at the end of the day music is not music in the sense that it’s a serious thing that comes from a conservatory and it’s written, arranged, through composed counterpoint. No, right?! It’s an expression.” Similarly, pianist M.K. talked about how in his undergraduate years at a music conservatory there was a “nit-pickiness about technique rather than the joy, the whole brain ecstasy of playing together.” Drummer C.A. named various reasons that explain why we have natural musicality and rhythm: “We have voices, we have heart beats, we walk in rhythm, we think in rhythm, we breathe in rhythm. We all know what rhythm is.” Because society puts so much emphasis on people being specialists, she wondered if people are discouraged to claim their musicality.

Lastly, like education and health, pianist E.U. talked about how music is similarly inaccessible to many. He feels that the elitism in the prices of tickets to attend live music is inhumane because of the equal right we all deserve to hear it. The non-profit music center he runs has live performances with price options on a sliding scale. In exchange for a ticket, he offers the opportunity to volunteer, whether working the snack bar or stacking chairs. Before we finished our breakfast outside on his deck, he invited me to check out an upcoming Jazz Trumpet show at his center, free of charge.
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The consumerism in these musicians’ stories are perfect examples of how, in our society, we conceive music to be a noun. As Christopher Smalls theorizes, understanding music as a noun puts too much of an emphasis on the piece of music, and creates too stark a distinction between performer and listener. Understanding music as a noun means that it can be consumed as often as possible. According to the Recording Industry Association of America, retail revenues from recorded music increased an estimated 11.4% in 2016 to $7.7 billion (riaa, 2016).

In a 2017 Podcast on Radical Hope, Author Junot Diaz criticizes this kind of society:

Ours is a cannibal logic. We reward those who can devour the most. You can devour the most market, because you’re the number one musician? Reward them. You have sold the most tickets? You’ve devoured the most space, the most screens? Reward them. I mean it’s terrifying when you think about it, because it’s a logic of hyper-consumption.

This cannibal logic towards music in the Western world leaves no space for valuing the relationships in musicking, which according to Smalls, is the true meaning of musicking.

ON HEALING

Levels of Consciousness

During an interview with psychotherapist C.G., I explained my topic and the first rounds of interviews I had with musicians. Before asking any questions, she began talking about fields of consciousness and how in traumatic situations, the field narrows. She then guessed that when musicians play, their whole system relaxes, and they tap into a higher field of consciousness, where the field gets narrow and goes higher.

Then I asked if she would be willing to review some of the descriptions I gathered from the musicians explaining their experiencing while playing. She read each of the five descriptions listed in Chart 2. Based on her knowledge, she organized the musicians’ experiences into two categories. She said that musicians 1, 2 and 3 were experiencing what she understands to be
“peak performance,” while musicians 4 and 5 were tapping into what is called the “universal self.” She described the two states as follows:

**Peak Performance**
“The way that we see peak performance in the trauma field is that it’s a level of dissociation. And sometimes it applies to the realm of sports. But the brain has this capacity to be experiencing something and the field of consciousness narrows. That’s what happens when we’re in danger but it also can happen in peak performance. It’s a narrowing of consciousness. It’s like getting in the zone. There’s something about going into a zone that’s what they’re talking about, that felt experience.”

**Accessing Universal Self**
“Talked about by psychologist Roberto Assagioli, it’s a very small portal of higher consciousness and that’s the ascending of the transpersonal self into the universal self. And very few people go there. It’s when you’re involved in an experience and the energy is moving you, you’re not moving the energy. The God energy, or higher consciousness- whatever you call it- that moves through you.”

**Chart 3. Peak Performance and Accessing Universal Self Described**

C.G. also shared that to be able to access the universal self you must go beyond peak performance. Regarding Musician 4, she said, “Because this musician opens up to whatever comes through, it is a complete spiritual experience, where she is tapped into the divine.”

Regarding Musician 5, C.G. said, “When this musician plays, an energy is flowing through him, people are picking up on that energy, and that space in between feels divine, feels like divinity. And the neuroscience behind that is called mirror neurons.”

What makes Musician 4 and 5 distinct is that they are both able to get out of their own way. C.G. further explained, “They don’t have this need to sort of feel belonging to other people in the moment. They want to be connected to something deeper.” Musicians 1, 2, and 3 are

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2 The concept of Universal Self falls within a model of transpersonal psychology, one of the humanistic psychologies. See Appendix 1 for more detail.
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going somewhere and something happens, but they remain in control of doing it, “They’re very much in more the earthly plane and everyone is having a synergy together which is a nice experience.” C.G. shared that it is important to remember that one experience is not better than the other, but just different.

After she categorized the experiences and explained her reasoning, I then revealed to her that Musicians 4 and 5 fit into my prescribed cross-over category of Musician/Healers. She said that she was not surprised by this, and that they both seem to use their own music for healing purposes. They are able to do something that the psychotherapist thinks is also necessary for healing, which is to get out of their own way.

Healing Defined

In talking with the healing practitioners about their work, I asked each of them about their understanding of healing as well as if they consider themselves to be healers. Their responses are organized below.

<table>
<thead>
<tr>
<th>Practitioner</th>
<th>Definition of Healing</th>
<th>Claims self as Healer?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuropsychologist</td>
<td>Reducing the problem present at the time.</td>
<td>Yes</td>
</tr>
<tr>
<td>E.R. Physician</td>
<td>Sometimes we fix things, but mostly we help people suffer.</td>
<td>No</td>
</tr>
<tr>
<td>Psychotherapist</td>
<td>It’s an evolution. The self evolves over time and space and that realization heals you.</td>
<td>No</td>
</tr>
<tr>
<td>Music Therapist</td>
<td>Making something or someone well or better. It is an incredible power, not to be taken lightly.</td>
<td>No</td>
</tr>
<tr>
<td>Pianist who is told his music has healing qualities</td>
<td>The role of healing is to align a person with their dharma, or their destiny.</td>
<td>No</td>
</tr>
<tr>
<td>Energy Healer/Drummer</td>
<td>Sometimes I think all healing is a reminder that you are whole.</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Chart 4. Practitioner Definitions
Music, Healing, and Conflict

There are no right or wrong answers to definitions in Chart 4. For these practitioners, the definitions are true for the work that they do. Just as the musicians struggled with describing their relationship with music, the second round of interviewees struggled with describing their understanding of healing. The E.R. Physician, who is my former colleague and friend, admitted that he believes healing is a funny concept. He said he did not feel confident calling himself a healer because “only the Lord can fix things.” Many of the definitions seem to align with the Lederachs’ ideas that healing is a nonlinear continuous dynamic.

Understanding the various perspectives on healing is helpful in trying to shorten the distance between music and healing. Knowing why or why not individuals claim themselves to be healers is also helpful. The neuropsychologist believes himself to be a healer because he reduces problems. The energy healer, through her work, helps to remind others that they are whole. She also admitted that her ability to heal comes from sources outside of her own self. The music therapist does not consider herself a healer, but that the work she facilitates can promote healing and well-being. Similarly, pianist M.K. said he does not necessarily create healing music. He believes that music is innately healing and that if it is played within the spirit of attunement to the healing process, it resonates with the healing process in other people. While we have qualifiers in our society for being a doctor or a therapist, there are no qualifiers for being a healer. As seen by column three, even some doctors did not feel comfortable claiming the title of healer. Yet it seems that we are quick to judge other cultures who have their own methods of healing.

Healing and Society

Similar to asking the musicians about the role of music in society, I asked the healing practitioners to comment on how they understand the culture of healing in our society. Two of
Music, Healing, and Conflict

the three respondents spoke about our “fix-it” culture dominated by medication. The E.R. Physician said:

The U.S. culture of healing is ‘fix it.’ Take a pill. Get better. Have an operation, get better. If you’re fat, clip your stomach, get thin. Can’t do that, cut out the fat, get thin. It almost treats the body like it’s a machine it's gotta fix. Ya know, change the oil, lube the gears, or you gotta replace the part.

Similarly, the psychotherapist voiced concerns about the pill society in the United States. She talked about her childhood, remembering that the trend to prescribe antibiotics for any infection became the norm right around the time TV dinners did: “It was whatever was convenient and more industrious.” She concluded by saying that although it is more common to find Western doctors that cure the symptoms, alternative healers and naturopaths exist that treat symptoms as well as the whole person. Based on both of these practitioners’ definitions of healing as shown in Chart No. 9, it is easy to see why they have trouble with a healing culture based on consumption and mechanized medicine.

When I asked the E.R. Physician how he would like to see our “fix-it” culture of healing change, he explained that some parts of healing do indeed need fixing. He gave the example of a ruptured appendix, which needs to be dealt with. Then he shifted the conversation to his wife: “You know my wife is a nurse and nurses are not around just to fix things, but to be present to the people who are suffering.” He spoke about her role as an empathetic listener to the patient. He said that even though she may not fix the underlying physical lesions of her patients, her presence and work can make them feel better. This presence, he claims, often gets lost in Western medicine and ought to be more valued.

Lastly, the neuropsychologist said his biggest critique of the culture of healing in the United States is the fact that “We don’t understand the difference between soothers and healers.” He expressed that there are too many people claiming to be healers when they are actually not
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improving someone’s condition, but only making them feel better. He gave the example of yoga, and said that it is only healing if it helps someone on a musculoskeletal level.

The critiques of our culture of healing paint a good picture of the varying opinions and belief systems present in society. While the neuropsychologist’s voice is authentic, his perspective on healing is narrow. He values yoga only for the healing effects it can have on the physical body. To him, healing happens only through successful measurement. Yet responding with the words of the E.R. Physician, “there are a lot of things that can cause pain that don’t have an apparent mechanical physiologic substrate.” Also, the E.R. Physician speaking about his wife’s role as a nurse suggests the need for a shift to the non-measurable and intuitive. Understanding the multidimensional and directionality of healing is significant.

A few years ago, the E.R. Physician gave me a book called God’s Hotel (2012). In the book, Dr. Victoria Sweet explores her own journey with modern health care and her personal interest in the medical work of 12th century nun, mystic, and medical practitioner Hildegard von Bingen. In her manuscript on medicine, Bingen reveals a model of healing unlike the modern mechanical model of the body. Her idea was that the human body is like a plant, not a machine. While someone has to fix a broken machine, a plant can heal itself. The job of a doctor or a healer is to remove anything that might obstruct the body’s ability to selfheal (Sweet, 2013). After learning from Hildegard, Sweet began by doing little personal things for her patients that normally the nurses would do, like propping up a pillow or giving them sips of water. While many argued that such behavior was not the most efficient way for her as a doctor to spend her time, she realized that it created a personal relationship between herself and the patient, the relationship which she believes is the secret of healing. Sweet concluded that although modern health care views unassigned free time to be inefficient, this inefficiency provides the space for a
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healer to be personal and to follow their calling. She coined the term the *efficiency of inefficiency*, and said that within this concept is where the secret of healing lies. This concept can be tied to the metaphor of the Tibetan singing bowl: although the repetition of the stick on the bowl is seemingly doing nothing, it creates vibrations that help the bowl reach its resonant frequency. What may seem inefficient to the eye, may in fact be contributing to wellness.

**Mirror Neurons Critiqued**

To better understand the mechanisms of mirror neurons and their application to music, I sent the article about music and mirror neurons to neuropsychologist H.O. During our interview he told me that he had never heard of them before and that they are not talked about in the clinical world. He said, “They are not commonly accepted in any way, shape or form. And most of the stuff is monkey stuff and clinical people don’t care about monkey stuff.”

I was surprised by his answer, mostly because I had not thought to question their validity. I had read about mirror neurons in multiple sources (Van der Kolk 2014; Levitin 2006; Fitzduff 2015, Clarke n.d.) and spoke about them with the psychotherapist, none of whom alluded to any controversy. After our interview, I found a few sources that claim the science behind mirror neurons may be too much of a stretch to be accepted as true (Jarrett, 2013).

Although frustrating, the situation was a good learning moment. In trying to compare what neuroscience says about *musicking* with what musicians intuitively say about *musicking*, I realized that not everyone in the neuroscience agrees. My assumption that mirror neurons were valid simply because they were talked about in neuroscience is an example of the tendency in our culture to give more weight to scientific methods of understanding. Although I personally believe the literature on mirror neurons, they are not entrenched in the status quo. Even within neuroscience, there are hesitations in accepting what is true.
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Science vs. Intuitive Ways of Knowing

Moving past the subject of mirror neurons, I talked with the neuropsychologist about the role of neuroimaging in society and how it might be compared with intuitive ways of knowing. He talked about the glamour involved in modern day brain imaging and the necessity to include it to be eligible for NIH (National Institute of Health) money. He explained that in his work, neuroimaging helps them tailor a treatment plan, but that it is always accompanied by behavioral measures. He stressed the importance of integrating neuroimaging and social sciences because “the correlation between brain activity and actual behavior is really poor.”

I asked this same question to the E.R. Physician and he admitted that although he has knowledge about both science and indigenous ways of healing, he has never been able to put the two together. Acknowledging that the relationship between the two still confuses him, he questioned if maybe they exist in different universes.

Lastly, psychotherapist C.G. spoke about the recent tendency for science to confirm ancient practices, a trend which she believes is driven by our litigious society. As a lifelong student of Tai Chi, she knows the benefits it has on the mind, body and spirit. In order for her to integrate her expertise with her patients, however, she would need evidence-based training in order to protect herself from being liable should a patient self-harm. She spoke about an upcoming evidence-based Tai Chi training at a local health and wellness center. She is attracted to the training because the Tai Chi teacher was involved in the neuroimaging process, whereas usually the people who do the practices are not the scientists who study it. She admitted that she wants to go to the training not because she needs proof of the effectiveness of the practice, but that it will provide her validation.
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The West’s tendency toward scientific ways and how people in Western society view indigenous and intuitive ways of knowing calls to mind the work of Palestinian-American author Edward Said. Known for his 1978 work, Orientalism, Said showed how the West used their power to represent the colonial other, while simultaneously leaving them silent (Al Jazeera, 2017).

Mainstream medicine in the United States, which primarily uses pharmaceutical and physical interventions to treat or suppress symptoms, does not often leave room for the voices of indigenous healing. Although non-Western practitioners exist, they are referred to as *alternative*. Said says the most interesting human task is the task of interpretation (1978). Interpreting non-Western healing methods as alternative places them in a less-dignified category. The response from one of the interviewees that suggest science and indigenous ways of knowing exist in different universes is an interpretation that shows the challenge in allowing for a coexistence of the two ways of knowing.

The Tai Chi example and the trend to use brain scanning to validate ancient ways at least creates space for the practices. The practices are being acknowledged but not believed until proven effective per the protocol of those measuring. Before looking at music’s relationship to healing, we must question how we can include the other without suppressing the difference.

A Disappointing Case Study: Sound Healing Cultural Genocide

As part of an effort to include healers from all disciplines, I explored the idea of interviewing someone who practices sound healing. I was referred to a sound healer in the community who offers sessions which he calls ‘Himalayan Bowl Sound Bath Meditation.’ I attended one of his sessions and after seeing that he was White, I reached out to my adviser for interview preparation guidance on asking questions that were sensitive to cultural appropriation.
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but also respectful of his practice. I was concerned that the knowledge of an Eastern practice might not be valued. Unfortunately, my concern became a reality. While sitting across from each other in a coffee shop, I asked: “So you refer to what you do as a ‘sound bath’— what is the connection historically to the people who originally practiced this?” He leaned back and replied:

Well that’s the thing. Nobody originally— there is no lineage for this. If you go to Kathmandu and you walk into a little store that has these bowls, and say to the owner that you’d really like to learn about these. And the guys says, well my great grandfather was a sound therapist in Nepal— if he says that he’s bullshitting you. There was no sound therapy in Nepal for a great great grandfather. These were bowls, these were dishes, this is where you ate your rice. They used them to eat out of. The small ones, beer, the big ones, soup. Sometimes you put some sand in it to hold a door open.

Surprised by his comment, I asked who he thought played the bowls. He said: “Occasionally you would have a medicine man or a shaman use a bowl to get you into a state. But he didn’t surround you by bowls like I do . . . Even in the monasteries it was all about utilitarian things . . . There’s a lot of mythology around it and not a lot of truth.” I responded, suggesting that what he might believe to be true might not be true for others. He told me my point was interesting.

Realizing where he stood in honoring the traditions, I asked him questions about the content of sound in his session. When I attended his session, I paid close attention to the patterns of tones that he played, and jotted down questions regarding the intention behind various tonal patterns. As a musician, I am curious about the physics involved in sound, specifically the phenomenon called the overtone series, which are naturally occurring tones that are multiple integers of the fundamental frequency of each pitch. I asked him a few questions about the overtones in his bowls and the intervals between the pitches and he gave answers that I knew to be factually incorrect. He revealed that his decisions on what to play during sessions are based on what he feels at the moment, and that the process for him is one of intuition and beauty. He then rattled multiple anecdotes of individuals who expressed to him the relaxing and healing
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power of his work. While it is possible that people may indeed receive positive effects from the work he does, I felt troubled by his approach to his practice. Not only is he appropriating a culture, but he is denying that their traditions even exist. At one point in the interview, despite my blank stare, he said: “We’ve adopted something and made it our own and it's fascinating.”

Linda Tuhiwai Smith, in her book Decolonizing Methodologies (1999), speaks to the injustice of situations like this, which are unfortunately a constant occurrence for indigenous peoples everywhere. She writes in the first page of her book that “it appalls us that the West can desire, extract and take ownership of our ways of knowing, our imagery, the things we create and produce, and then simultaneously reject the people who created and developed those ideas . . .” (Tuhiwai Smith, 1999, p.1). The person I interviewed seems to be doing just this: extracting, taking ownership and then rejecting. He claims to do sound healing but knows little about the traditional practices or sounds themselves, yet remains confident in his abilities, all the while charging money for the experience. I spoke with my academic advisor about the situation and he affirmed my concerns, saying that by monetizing indigenous knowledge and denying any lineage of the tradition, he is “ripping the epistemological background of sound healing itself” (Bouba, personal communication, 2017). My advisor spoke about cultural genocide, and humbly reminded me that the anger I feel is a daily struggle for indigenous people.

In my attempt to find an interviewee that was practicing the healing traditions of the East, I found a wolf in sheep’s clothing. Under the guises of a traditional practice, the individual I interviewed is only claiming intuitive knowledge to attract consumers, disrespecting the original practitioners and honoring no one at all.
Music Therapy

The music therapist I interviewed has been practicing for eight years. She works with students in K through 12th grades that have emotional and behavioral disorders. Using various musical exercises, her work revolves around improving communication skills, social skills, fine and gross motor skills and focusing attention. The general overarching goals of music therapy are “self-esteem, improving self-confidence and of course self-expression. Letting them be where they’re at and express themselves.” Because her students have emotional and behavioral disorders, she teaches her students how to use music as a coping tool. She often uses a Tibetan singing bowl with one of her students with autism that needs sensory input when upset: “I pull out the singing bowl and ask her to play when she’s having a meltdown and it’s like the circular motion of the mallet around the bowl and the sound, it all just calms her right down.”

When I asked how her relationship with music had changed before and after becoming a certified therapist, she talked about how when she was growing up, she made mixed CDs for her family and friends, choosing perfect songs that matched whatever situation they were going through. She talked about how she has often used music as a tool for her own personal healing, growth and expression. She said, “That’s why I think when I realized what music therapy was, I realized that in a way I was already doing it.” One of the biggest challenges she faces in her profession does not have to do with the content of her work but rather the identity surrounding it. She explained, “A lot of people still don’t know what music therapy is. It’s over 70 years old now, but it’s still something that people are coming around to. Or they are still skeptical.”

Two other respondents mentioned their previous interest in the field. Vocalist N.B. and pianist M.K. both attempted to study music therapy, but stopped their pursuits. N.B. took a semester worth of classes but chose not to stick with it, “Music therapy goes straight to the
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experiential and then has to validate the experience through report. And that’s why it was so painful for me.” She talked about how she is more comfortable with intuitive experiences, especially musical experiences because in a creative process, you need to be open to the intuitive. She ended saying, “And if you need scientific proof for intuition, it feels like an oxymoron to me!” Similarly, M.K. said he felt limited in the realm of study but is glad he did not pursue it because he can still help people through his music anyway.

Trauma and Music

The topic of trauma was mentioned in almost every interview with a healer. Two respondents spoke about it in detail. Psychotherapist C.G. explained that when a person goes through a trauma, the old brain hijacks the prefrontal cortex and shuts everything down. Once the body is in a fight or flight response, the body system becomes dysregulated. In her work, she has known therapists to use music that has positive associations for trauma survivors, in order to help their dysregulated systems, improve.
Referencing this chart, psychotherapist C.G. explained that the middle window of tolerance is what psychologists call optimal arousal. The musicians that reached “peak performance” or “universal self,” need to first live in the window of tolerance before changing state. Depending on the person, trauma causes a survivor to live either above or below the line. If a trauma survivor is above the line and they cannot calm down, they need to down regulate as indicated by the green arrow. The psychotherapist explained that of the three interventions listed that help with down regulation (deep breathing, mindfulness and grounding exercises), music would be a grounding exercise. Another type of reaction from a trauma survivor is to shut down, which is the state below the line. In order to come out of that shut down state, music can help facilitate
physical exercise with something as simple as swaying or rocking to the rhythm. In both circumstances, music helps trauma survivors reach the window of tolerance.

Pianist M.K. has used his music in multiple retreat settings for individuals suffering from Post-Traumatic Stress Disorder (PTSD), including war veterans to survivors of the September 11, 2001 terrorist attacks in New York City. In explaining how music can help trauma victims, M.K. explained:

What music does is it gives us an antidote to that sympathetic response. In music therapy and music healing, we have a much deeper trust of the idea that, if the system or spirit within us is given the opportunity, it will heal itself. That occurs on every level by our very nature- the fact that we are loved by God and loved by nature. My body wants to naturally repair itself if we don't keep interfering with it. So what music allows in that more parasympathetic response is turning off all the energy budgetary allocation to the defense system and starts educating.

M.K. also spoke about how music can work slowly to help a community who has been traumatized. He explained that it starts on an individual level, and then extends to an interaction of two individuals and then extends to groups. “Social cohesion,” he explained “comes out of individual relational interactions which come out of individual resets.” M.K. predicted that neurological testing in the future will prove that many positive social behaviors are really individual interactions of two less sympathetically charged people.

**Music and Healing Connected**

While not all of the interviewees explicitly named reasons why music is healing, everyone commented about the ability of music to move us from our current state of being with positive effects. Four of the nine musicians expressed that they do not consider the role of music in their life as healing. They did, however, admit that music improves their mood, increases concentration and focus, and facilitates transcendent experiences. One musician, when describing his current state, said that he felt good and did not need healing, but then followed by
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up saying, “But if you threw on Miles 64 quintet, I would probably have a little extra pep!” A
different musician said that music acts therapeutically on his life when the projects he works on
also work on him. Lastly, one musician said she did not necessarily look at music as therapeutic.
She does not sing with the intention of singing, but that it just happens as an expression. She
revealed, “I don’t have music in my life for a source of therapy. But there is definitely self-
therapy happening in the fact that I have music in my life.” These four musicians who do not
consider music to be healing for themselves, do however, recognize that it can be healing for
others. The Miles Davis fan told a story of how his grandmother, even though she was in an
induced coma, moved her finger when they played a recording of Patsy Cline. The vocalist
talked about her interest with Sufi music and healing and how they use specific melodies and
rhythms to help turn a breech baby in the womb.

The other five musicians explicitly claimed that music was healing for them in either an
emotional or spiritual sense. As mentioned previously, music acts as a centering tool that
reminds two of the musicians of who they really are. Oud player B.D. admitted that music is both
healing and therapeutic for him. He shared that he does not have a care in the world when he is
playing, whether with one of his Middle Eastern ensembles or by himself in his living room
chair, a nightly tradition. E.R. Physician J.H. spoke about the spiritual aspect of healing he finds
in music. As a minister and former seminary student, he says that practicing medicine for him is
a cognitively focused activity, while practicing music can be transcendent.

All of the interviewees offered different perspectives on how music and healing relate.
Psychotherapist C.G. stated clearly that “Healing is a continuum and you can use music in
different interventions along that continuum.” Drummer and Energy Healer C.A. explained that
if someone has a trauma in their body, it stays there producing a certain frequency until that
frequency gets released. Certain frequencies of music can then resonate that tone until it releases.

She said the healing happens when the frequency of the trauma releases and the individual is brought back to their wholeness in the present.

Lastly, M.K., who was a board member for a Cancer Center at one of his local hospitals, introduced a quadrant that the board often used to determine which inventions they would implement.

![Chart 6. Intervention Quadrant](image)

He explained that the hospital was always looking for interventions that fell in the upper right quadrant. He often advocated for music because of its ability to affect everyone and its safety.

M.K. then commented on the specific role music plays in healing:

It’s safe to say that music plays a fundamental role in the healing process, not to the exclusion of other things by any means, but it provides a settling level where the body has the chance to take on its own healing. If you slice your finger and you don’t interfere with it, the finger will heal. And I think similarly, music at the very least, creates an environment which the natural healing of the organism can occur.
Discussion

This research process, which includes the voices of authors I read and the interviewees I met, reveals that music and healing are closer than we often imagine. The following section focuses on various themes that arose from the stories I heard.

Music as More than a Tool

When I started this project, I was skeptical about framing the topic of music as a tool for healing and conflict transformation. Using a tool reminds me of utility, which then makes me think of achievement. I do not believe that music is about achieving something. Music is not just a tool or something that we use. Music is something that we are.

The Spanish word for person, *persona*, has been traced by Valencian etymologist, Vincent Guzman, to the Latin verb *sonare*, which means to resonate with intensity (Lederach & Lederach, 2010). With the prefix “per,” meaning “through or for,” Guzman suggests that being “through or for sound” is an essential component of what it means to be human (Lederach & Lederach, 2010). The musicians’ responses regarding their relationship with their craft reveal this interconnectedness between music and humanity. Their stories explain that music is more than a hobby or a job. It cannot be compartmentalized or described with ease because it is a part of them, mind, body and spirit. As pianist M.K. admits, music is both the language and essence of who he is at a soul level. In other words, he communicates with and through music, but beyond and even before that communication, the music is intrinsically a part of him. While musicians have more practice with the language of music, all human beings have this musical essence.

In a lecture entitled *Music and the Brain: Made for Each Other*, Neuroscientist Robert Zatorre expresses his awe that music can utilize the most advanced circuitry of our brains, but at
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the same time be a normal and naturally occurring activity (2016). He explains his belief that music has a very specific function for human beings. He gives the analogy of bats and how they have a species-specific behavior of echolocation which helps them find insects while flying. Zatorre says humans have the species-specific behavior of music which helps us communicate and regulate emotions. Just as echolocation is a survival mechanism for bats, music is a survival mechanism for humans (Zatorre, 2016). While it is encouraging to hear scientists value the role of music in our lives, the profound experiences of music cannot be reduced to intellectual understanding.

Music as Metaphysical

Many of the musicians I interviewed described music’s ability to ground us in our physical selves as well as lift us to a mystical reality. When engaged in music, they described felt sensations in their body like goosebumps and energy in their bellies, as well as the feelings of being transcended, hypnotized and being brought to a place of ecstasy. Music grounds their bodies but lifts their spirits. As described by the Indigo girls, an American folk rock duo, music is “metaphysical.” In an interview with Krista Tippett, musician Emily Saliers said:

Music is physical. It’s got your heartbeat, it’s got rhythms, it’s got space. It’s a physiological reality along with a mystical reality. So it’s metaphysical. There’s not many things to in life you can point to and go, ‘that’s metaphysical.’ But music is. (2015).

I think most people who engage with music can relate to this experience. Musician Bobby McFerrin also describes this duality when he says that he uses music to lean into the place where flesh and spirit are in tension (Tippett, 2014). Our flesh is our physical selves and our spirit is the part of our souls that can transcend the here and now. In other words, music clues us into our bodies and in doing so we can surrender to the experience, and by losing grasp of our ego, we
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can rise to another level of consciousness, or as psychosynthesis names it, our “universal selves.”

By bringing higher dimensions of consciousness into our awareness we are able to thrive.

Music Means Connection

The musicians that were interviewed reach their highest state of transcendence when playing with other people. These musicians had a more profound experience when playing in a group, but they would also connect with people in the audience or people that were listening to them. While music has healing potential for individuals, music has more of an effective when played with others. From a neuroscience perspective, the new research on mirror neurons supports this claim. Van der Kolk, in discussing the meaning of mirror neurons, writes:

> Our culture teaches us to focus on personal uniqueness, but at a deeper level we barely exists as individual organisms. Our brains are built to help us function as members of a tribe. We are part of that tribe even when we are by ourselves, whether listening to music (that other people created), watching a basketball game on television (our own muscles tensing as the players run and jump), or preparing a spreadsheet for a sales meeting (anticipating the boss’s reactions). Most of our energy is devoted to connecting with others. (2014, p. 80).

While I do believe that mirror neurons exist, I do not believe they can answer all of our questions on music. As Kolk writes above, they provide insight on the interconnectedness of human beings that has always existed.

The Danger of Discovery

Philosopher Alan Watts once said that you cannot study a river by taking out a bucketful of water and staring at it on shore. In doing so you lose the essential quality of the river which is motion, activity and flow (Watts, 2011). The Western trend in science to scan the human brain for evidence is much like examining a bucket of river water. Only studying the brain structures involved in musical processing fails to include other essential qualities of musical experience. This failure does not suggest a rejection of all scientific advancements, but rather an
acknowledgment of their limitations. The risks involved in these limitations are two-fold. First,
there is the potential harm of the direct effects of the study and second, there is the potential
harm of excluding other ways of knowing.

Although studying music’s effect on the human brain is seemingly harmless, we must
understand the trend in the larger context of colonialism. When looking at Western history, we
should be leery of the concept of discovery. Just as research has become a “dirty” word for
indigenous populations, discovery has become an unassuming weapon for the West, a dangerous
word veiled in excitement and progress (Tuhiwai-Smith, 1999). The United States was built on
the genocide of one race and the enslavement of another, all in the name of discovery (Gilio-
Whitaker, 2015).

The irony, however, is that when we look to the darkest parts of our American history,
we can find answers about music and healing. The slaves that were kidnapped from various
countries in Africa used their voices on the slave ships while traveling across the ocean. They
sang as a form of communication to locate family members, tribal members or fellow
countrymen (Berry, 2017). They used song to express their feelings of despair, hope and
inspiration. When put to work on the land, the slaves continued to use song during their bondage.
Their bodies were not their own, but they still knew the power of the human voice. They truly
used music for survival: to communicate and to regulate their emotions. Similarly, many
indigenous tribes in the United States use circular practices for healing, such as medicine wheels
for spiritual well-being. This thinking originates in their respect for the earth from the seasons in
nature to the rhythm of day into night. If they feel disconnected, they do not turn to machines and
external growth, but rather to the world from which they came.
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The trauma in the American past should force us to reflect on what it really means to discover. We may increase our knowledge of the human brain, but that does not necessarily lead to an increased awareness of what it means to be human. Healing as linear and neuroscience as the future are still valid views, but they are not the only perspectives. If we embrace science we must also honor the intuitive: the indigenous voices, the non-Western voices and the voices of our ancestors. The most meaningful discoveries do not exist outside of us. Instead, the most meaningful discoveries lie within us; they are a stripping down and a reminder of what it means to be alive. Music is one of these discoveries. All people throughout world history have been able to access it with ease.

In trying to understand how my research and ideas apply to conflict transformation and peacebuilding, I found an organization online called the Min-On Music Research Institute, whose mission is to: “pursue a multidisciplinary investigation of the potential application of music in peacebuilding activities.” I contacted the organization and communicates with the founder of the institute, Olivier Urbain. In an informal exchange dated August 30, 2017, I asked Dr. Urbain about the ethical implications and possible irony around the trend to use neuroscience for modern day peacebuilding. He replied:

Yes, very ironical. With the Renaissance and the Industrial Revolution, Europeans and then Westerners have found ways to dominate most of the planet and to destroy every other culture they've encountered, partially or totally. We have imposed our brainy, cerebral culture with our machines. Now the planet is ready to burst. We have to URGENTLY honor the cultures we've tried to silence, and get back to a relationship between our bodies, emotions, brains, plants, trees, animals, the cosmos, interconnectedness. If we take that self-reflecting and post-colonialist position, I think we are justified to use the latest neuroscience at our disposal to move forward. (August 30, 2017)

If we use Dr. Urbain’s words in light of Watt’s river analogy, Western behavior has historically been so determined to produce evidence, that it has contaminated the river along the way. We
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must give due time to the ethical implications that come with discovery. As we advance technologically, we should pause and ask the important question: how will our spirits keep up?

Confines of Societal Structures

Both the musicians and the healing practitioners that were interviewed had critiques about the role of music and healing in society. They admitted that they are maneuvering through systems with which they may not agree. The musicians complained about the negative effects of consumerism, the rigid definitions around what it means to be a musician, and the distance between performer and listener. The healing practitioners complained about the “fix-it” culture of medicine in the United States, the unnecessary glamour of brain imaging, and the need to validate any non-Western tradition with empirical research because of the litigious nature of our society.

When looking at the role of music for well-being in the United States and Western Culture, I imagined that this project was about remembering: how our ancestors and various indigenous people since the beginning of time have been using music in their lives. After talking with my interviewees and various colleagues, however, I realized that there is more to the story. If we look beyond remembering, we will see that limited structures in our Western society support the type of *musicking* that facilitates healing and well-being.

Guitarist T.M. talked about a few spaces in our Western world that support this type of *musicking*, namely community “sings” and campfires. “Those forums are still there,” he explained, “but they are in need of being shepherded into something more.” Similarly, I asked various friends and acquaintances about the last time they sang in a group with either their family or the people around them. Each individual said it only happens when singing happy birthday around a cake or sometimes the national anthem. For a society that consumes so much music,
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how is “happy birthday” one of the only traditions promoting communal engagement? How can we expand these insular events to something more? When looking at the systems that sometimes dictate how we can behave, it is important to ask the questions: who benefits from lack of healing? Who benefits from music as destructive?

Sound Health Through Sound

It is not easy to define the correlation between music and healing because there are unlimited reasons to need healing as well as unlimited capabilities of music. As illustrated through my interviews, perspectives on healing are diverse, even among doctors in the same realm of study. We must view the body as a plant that can heal itself as opposed to a machine that needs fixing. This wholistic view respects the richness of mind, body and spirit. We must strive for well-being not just surviving and finding cures. As some of the interviewees beautifully articulated, music acts as a primer, creating a space that allows our bodies to heal. Because music is part of our essence as humans, in using music for healing we are really healing ourselves.

In revisiting one of our first questions on whether tones or combinations of tones are inherently comforting, the most interesting thing I read came from a practicing sound healer, Jonathan Goldman. He spoke about Tibetan medicine and how it relies on the belief of the healer in the medicine, the belief of the patient in the healer, and the karma between the two. Goldman says that it is not simply the frequency of the sound that creates a healing effect but the intention of the person projecting the sound (Goldman, 2013). With this concept in mind, the potential healing effect of music relies on relationship between those musicking.
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Revisiting Conflict

While the stories revealed in my research help to shorten the distance between music and healing, there remains a larger gap in connecting them to conflict transformation. This project was never about outlining best methods for applications, although such structured plans are what science, government and various organizations usually demand. I wanted to explore the modern trend to use neuroscience as a launching point, and hold it next to various other ways of knowing. While mirror neurons might explain what happens when we engage with music, the musicians I invited were also able to share stories that are just as valid. Instead of turning to machines and external sources for answers, we need to turn to ourselves.

Various peacebuilders have written about where music is best used in conflict transformation. They suggest that music seems to be most appropriate in post-conflict situations where trauma healing, reconciliation and other psycho-social endeavors are pursued (Sandoval, 2016). They also suggest that music can help end conflict as well as help prevent conflict. This linear view of conflict (pre, during, and post) is certainly valid, but not all people see through such a lens. As peacebuilders, we must not attempt to Westernize or project our value systems, even regarding the use of music, on others. Since music is always culturally constructed and contextualized, we must pause and evaluate the potential harm of helping or serving others.

Further Study

Since music, healing and conflict are all tied to human existence, this research can be the launching point for a multitude of topics. Various other areas of interest to support this research are worth pursuing. One author that I read suggested that the more we push music towards the realm of art, the less we remember its therapeutic values (Tomaino, 2002). Exploring the aesthetics of music alongside its potential for healing would be needed to further understand this
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claim. A deeper dive into the physics of sound as well as tonal hierarchy would be important to explore our human capacity for resolving and interpreting music. I also think it would be important to do a thorough critique of ethnomusicology and its various methods about gaining insight from how other cultures use music for healing purposes. Such a study could explore what appreciation, respect, acknowledgement, and dignity look like when investigating another culture. Lastly, I would like to see further supportive research regarding social justice and indigenous methods of conflict transformation.

Conclusion

Today I wake up empty and frightened. Don’t go to the door of the study and read a book. Instead, take down the dulcimer, let the beauty of what you love be what you do. There are a thousand ways to kneel and kiss the ground, there are a thousand ways to go home again.

-Jalal ad Din Muhammed Rumi (1207-1273)

In this poem, Rumi instructs the frightened individual to choose music over reading as a way to return home to wellness. In engaging with the beauty of music, we engage with the beauty of ourselves. Neuroscience has been able to validate the complexity and effectiveness of human musical experience. At the same time, As Krista Tippett describes it, we are able to rediscover the “primal joy and homecoming in the simple act of singing together with a bunch of other people” (Tippett, 2015). There is a parable of our time in this circumstance. Despite what society says, we all know more about healing, music and peace than we dare to admit. Perhaps we can find healing in places beyond medical facilities, find musical transcendence in places beyond a performance hall, and find conflict transformation beyond structured endeavors. As the
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Sufis say in their poetry, music covers us with light and connects us to the breath of God. It speaks to us and moves us with splendor and truth in a way that nothing else can. Only until we surrender to its power, and ultimately ourselves, will we witness the incredible healing it can bring.
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Bibliography


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Appendix 1:

The Universal Self:

*Continued Conversation with C.G.*

Transpersonal psychology is known for combining spiritual and transcendent aspects of human existence. Psychotherapist C.G. explained that transpersonal psychology is a subset of the humanistic psychologies that were popular in the United States in the 1970s. It stems from the psychology of Carl Jung, who was the most well-known theorist of consciousness in the mental health field. Jung talked about a collective unconscious, a concept which says that we are all tapped into a higher field of consciousness, but that we all have a shadow side which is called the ego. Roberto Assagioli further developed Jung’s ideas, explaining that the whole process is psycho spiritual.

(Chart retrieved from: https://kennethsorensen.dk/en/integral-psychosynthesis-a-comparison-of-wilber-and-assagioli/)
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Although not shown in this specific diagram, the universal self would sit above the star that indicates Higher Self. C.G. said:

Assagioli said our natural state of being is to be in the transpersonal. It’s what the Buddhists call our true nature. In the Christian they call it alignment with the holy spirit. Like transpersonal is the holy spirit. It’s the you that is goodness. . . The bottom line is that we are good as a species. And when we’re living in our goodness, we have access to these higher qualities- love, trust, warmth, kindness, compassion. Those are transpersonal qualities- those are our true nature. But not many of us live there. . . but that’s why we really live in this middle phase.

Additionally, modern day psychologist Ken Wilbur expands spiritual psychosynthesis from Higher Self to a oneness with the collective unconscious. C.G. said that she associates this concept with people like the Dali Lama, Mother Theresa and Thich Nhat Hanh, .
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Appendix 2:

The Physics of Sound

Despite seemingly static inanimate objects, everything in the universe is vibratory. Molecules are always moving, including the speech and musical sound waves that are created when humans and instruments sound. It is important to make the distinction between a musical sound and a white noise sound such as the slamming of a door or crinkling of a newspaper. The diagram below helps to illustrate that the sound wave of noise has no regularity in form whereas the sound wave of a musical tone does indeed have regularity. Speech sound falls somewhere in-between.

The regularity of musical sound is measured in frequency, which is labeled in hertz. The human range of audible frequency spans from about 20 hertz to 20,000 hertz (Jourdain, 1997). Each musical sound or tone has a dominant frequency. The reason it is labeled dominant frequency as opposed to just one frequency, is because air molecules vibrate at several rates simultaneously, each note producing multiple sound waves with multiple different frequencies. However, when a note is played, our ear only perceives the lowest frequency, which is the loudest frequency and therefore the dominant frequency (also referred to as the fundamental frequency). Although we may think we only hear one sound when one note is produced, there
are other sounds embedded within that sound. These additional sounds, called overtones (also
called harmonics, hidden tones, or ghost tones) are patterned in a phenomenon that is called the
overtone series or the natural law of harmonics (Levitin, 2006).

I was able to glean a simple explanation of this idea from my brother Luke Massery, a
resource who has his feet in the worlds of both music and language as a classically trained
pianist and a speech pathologist. In a video interview, he commented on the overtone series in
musical sound:

“Speech sound is not white noise like banging, but it falls within a spectrum of regular
frequencies that fluctuate. What makes musical sound cool is that it has a naturally
occurring phenomenon called the overtone series. When a musical tone is produced, our
ear perceives the lowest frequency, but there are other almost imperceptible frequencies
within that sound… Musical sound has unique acoustical properties that are very
different from non-musical sounds” (Massery, Personal Communication, April 18, 2016).

Using the example of a piano, when any key is struck, the string in the back of the piano is
vibrating in its entirety (at the fundamental frequency). But because of the laws of physics, the
string is also vibrating in two equal parts, in three equal parts, in four equal parts and so on.
Each one of those additional vibrations produces higher frequencies and therefore higher tones.
The overtones, which occur for every note on every instrument, have a precise order: “Every
note has embedded within it this very specific pre-ordained series of higher notes, completely
dictated by nature” (Weisman, 2014). The diagram below helps to illustrate that specific order:
As illustrated, the first of the hidden notes or overtone frequencies is double the frequency of the original or fundamental, the second overtone is triple the frequency of the original, the third overtone is quadruple the frequency of the original and so on. Each overtone is always related to the frequency of the fundamental as integer multiples of the fundamental. The interesting thing to remember is that these overtones occur for every single note, and that although our ear hears certain notes, our brain is still sorting out all the overtones.