

**MUSIC: HEALING AND MEANING**

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## Dedication

In the final months of this work, Grandma Guadalupe de la Cruz Rios of the Huichol nation of Mexico passed away. With great respect to all others whose lives have connected with this great teacher, I dedicate this work to her and all others who quest to live and breath harmony, toward sustenance of this planet and the perception of the magnificent existence which is.

## Abstract

This project considers music's relationship to humanity. A perspective from the informational basis of *academic music therapy* is interwoven with reflective theory about music's healing capacity. The writer's music healing experiences as a professional musician and apprentice to the music healing tradition of Indigenous South (Quechua) and Central (Huichol) America guide the reflective theory. In this way, the writer desires to integrate the Western academic and South/Central indigenous American understandings of music therapy. Diverse genres are employed, including poetry, narrative, and academic styles to invoke and relate different perspectives of the same understanding of music's therapeutic and curative potential.

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## Chapter One: Vibrational Existence

*There are those experiences which provoke me to contemplate, relate, and pursue an understanding of music's power. When I experience such music, all preconceptions and mental deliberations prove false, yet I am compelled to write of my experiences, the chain of inspiring moments of healing bliss that are part of music. I formulate cognitive constructs which allow these experiences to remain vivid and valid as memory, toward deepening practice and person. (Personal Journal, winter 1999)*

### Personal Relationship with Music Healing

The inquiry during my Master of Education studies *centered* around the topic of music healing. My questioning began in relation to experiences with music healing in the South (Quechua) and Central (Huichol) American Aboriginal traditions as apprentice to Pepe Mendoza, as well as experiences while teaching/facilitating music, and also within my development as a musician. I turned to western music therapy literature to discover the theories which would explain or supply language to speak of my music healing experiences. Spurred by a personal need to academically substantiate the use of music as much more than entertainment, I researched. The topic was vast, having strong connections with the natural sciences, physics, quantum mechanics, education, aesthetics, philosophy, language, culture, neuroscience, ethno-musicology and anthropology. I spent the first year researching and locating music and vibrational healing within the greater context of academic disciplines. I was looking for the words, the ways, to speak of what I practiced, what I experienced. I was searching for a source, discipline, and language which shared similar experience and had a discourse to speak of that experience.

I did not find such a language or theoretical representation in theory of music

therapy. Rather, the conclusions I drew to satisfy my perception of my work and experience were from the realm of philosophy in aesthetics, physics and acoustics. I aligned my concept of music healing to depth and synchronicity of experience. However, I was not quenched by a sipping of philosophy and did not accept that I had found the language and tradition to speak of music healing. I turned to a more phenomenological study, writing stories of my experience. Generating theory around those stories became a way to communicate and develop language about the relationship I have with music. It was precisely *relationship* which became the focus of my ideas about the potential of music healing. I scoured the literature for a way to make sense of experience and then scoured experience for a way to integrate and make contextual sense of the literature.

This culminating project is just that: a culminating paper which expounds the major theoretical rewards of thought, language and learning through my two-year academic inquiry. I iterate what might be considered a literature review intertwined with an academic perspective of my work. I have categorized the many components of that research according to their part in generating a *personal reflective theory*, which integrates this knowledge with my understanding from both indigenous and artistic traditions. *Italicized text is used for the reflective theory*. It is intended that the reader might consider the relationship between the two perspectives of what I consider to be the same knowledge. This culminating project will outline what I have found to be the main concepts and movements toward an understanding of the music-human relationship and the experience of music healing and music therapy.

### A quantum mechanic perspective

To expect the reader to accept the ‘vibrational’ underpinnings of music/sound healing, it is helpful to explicate recently held perspectives from the realm of quantum mechanics. It is also useful to integrate a multi-cultural understanding of energy such as chakras, life energy, and meridians from the East Indian, Asian and American Indian perspectives, but as this treatise is being prepared for a western academy, I shall restrict my references to traditions therein, and not comment extensively on other culture’s perspectives.

John Timothy Henebry (1991) in his doctoral thesis *Sound wisdom and the transformational experience*, refers to recent developments in quantum mechanics as necessitating a new paradigm of scientific thought, where paradigm is the “overall philosophical core of beliefs and values by the scientific community that result in the perpetuation of particular techniques and methods to the exclusion of others...our world view” (p. 24). Henebry claims and references that the idea of the basic building block notion of the universe has been replaced with understanding that “if there is any ultimate substance of the universe, it is pure energy”... “what quantum physics is finding are simply probabilities to exist or tendencies to happen.” “In effect, the stuff of which the universe is made seems to be variation and potentiality of wave vibrations” (pp. 27-28). Henebry (1991) refers to David Bohm’s theoretical speculations that there are “two primary orders in the cosmos: the explicate order and the implicate order” where the explicate is “that which has already expressed and manifest” and the implicate is “that which is implied and is made up of various levels of energy in a potential state” (pp. 27-28).

Furthermore, Henebry outlines that physicists may refer to electrons and all subatomic particles as essentially being “local condensations of the field pulse” or themselves “atomic oscillators” (p. 173). This is an important aspect of the quantum mechanic contribution to how I perceive matter, the universe, and music healing. It is to say that not only is everything inherently wave and vibration but that particles, atoms, subatomic particles themselves are originators of vibration or oscillators. Essentially quantum physics may be concluding that all universal *structure*, micro or macro, is fundamentally energy and condensations of energy and function according to the fundamental laws of vibration (Beaulieu, 1987; Henebry, 1991).

It seems to me then, that the structuring process becomes integrally important. How are forms (particularly human) manifested as they are? What strengthens, weakens and affects these forms toward wellness or illness, happiness or heaviness? This culminating project addresses these questions with the underlying assumption that all that is, exists of vibration and wave, and functions accordingly. A vibrational understanding of the universe, coincides with another conceptual understanding in quantum physics known as Bell’s Theorem which begins to explain how oscillating forms might interact.

#### Bell’s Theorem: Universal Linkage

Bell’s theorem originated as one of Einstein’s thought experiments called the Einstein-Podolsky-Rosen (EPR) and its mathematical proof is known as Bell’s Theorem:

Two electrons traveling through a magnetic field can be forced to split off from one another and they always ‘spin’ in opposite directions from one another so that the net spin equals zero (E.g., if one spins a half turn to the ‘right’ the other

always will spin a half turn to the 'left'-the net result is a 'zero' spin). The question essentially centered on what might occur if 'at the last moment' one of the electrons was forced to spin left, instead of right. Would the other electron continue to spin opposite, or continue its normal course and spin left as well? The result, according to Bell's theorem and Aspect's research shows that whichever direction the electron is made to spin, the other electron will instantaneously spin the opposite direction. (Henebry, 1991, p. 27)

What Bell's Theorem implies is that "on the actual level of physical reality there exists, instantaneous, non-local communication or linkage" (Henebry, 1991, p. 27). The other explanation would be that something moves faster than the speed of light. However, an existence of a 'superluminal force' would negate much of the physics world theorems based upon the speed of light. Instead, Bell's theorem can be interpreted to conclude that all life is an interconnected weaving of energy formations, instantaneously inter-influential, and that all action is inherent in every action, all things in every thing (a fundament of general systems theory). What this says for the reading and writing of this paper is that the concepts can barely be considered individually as each one exists in the others, influencing and being influenced toward a form. My personal understanding of universal linkage and vibrational existence was not initiated by quantum mechanic information, but through the musings and meditations of my artist self. They are represented in poetic and reflective writing:

The border of the river

*It's October, seduced by strong sunlight, the past-ripe scents of the earth swim about me. I sit beside the Milk River, bare-legged, contented. The water level is low,*

*dammed for the winter. The river's edge, like a mouth, opens the humid respiratory system of the planet. Alveolus' bubbles cling to the mud on the bottom of the river. Thousands, millions of crystalline caviar, intermingling two of life's elements . . . water and air, breath and inspiration.*

*Behind me, the cliffs are transformed into a forty-foot-movie-screen featuring a fluid film of sunlight off the water. I have often been entranced by the cliff's image in the water; today, I marvel at the water's image on the cliff. I watch concentric circles of light emanate from a stone my son has thrown into the river behind me. I watch the circles reach the edge of the cliff and continue into the air. The same circles are watched by my son as they lick the sandy lips at the river's edge. The water, the air, the cliff and the light, the elements of life dancing within my vision; the perceivable, separate and inseparable.*

*What can be said of a relationship which renders the air and water separate, never to disintegrate or transmute into new substance? What can be said of a relationship which at the same time renders them inseparable in respiratory life, in celestial rains, ocean depths, and human lungs? What might be known about the border of the river? That place between land and water, air and water, air and land, land and fire, fire and air. What is known by those, who choose to live there, not as fish, nor as stones, but as perceivers? What is at the center of the tautology separate yet inseparable? What? Why...the original question and answer: relationship and state of harmony.*

*So different is the edge of the irrigation ditch to the edge of the river, yet the water, the earth, the sunlight, the air meet at ditch's edge, as readily as they meet at*

*river's edge. But deer drink from the river, rarely the ditch, the wheat grows overnight in the rain, but only coercively through piped drenchings. Can it be that human's touch taints to distaste? Or is it that the cycle of silence, the dynamic of elemental configuration is tangled through the temptation of twisting time? The water that showers from the pipes has not yet succumbed to the wind as cloud. From river and well flow the heaviest of the fresh waters, waters not ionized by a lighter atmosphere. To muddle the mixture, to alter and deny the harmony, denies the fourth dimension, the dimension of time, and precludes a fifth, a dimension of harmony, of vibrancy, of relationship.*

*The moisture from the river seeps upward with fingers of darkened hues, rewarded for the climb, or maybe summoned through a straw, by the tufts of grass dispersing the darkened earth into plant. Intricately orchestrated intervals of interrelation. Contoured through conduction, -harmony, vibrancy -vibration. Thus, music is a conductor of the elemental human. The mediator betwixt what is elementally water, earth, fire and air. Creating the crevices and curls, sculpting, restoring, resuscitating the intervals of elemental interaction . . . And, thus, I am a river.*

*And so do I consider what is contemplated and theorized as the human psyche to be the measurement and interpretation of this place, the place that is the border of the river. Further, I consider that the playing and dancing of music and especially singing is the tuning and toning of this place, the physical preparation of environment. It is the preparation of the natural, the tuning of the quality of the bodily instrument for play within the world. Just as exercise establishes rhythm and tone within the musculature and*

*mechanism of the human body, just as routine emits a vibration into a life, sustainable or unsustainable, constructive or chaotic, so are the inner landscapes being sculpted, regulated, and knowable.*

*This is the landscape from whence sounds and songs, stories and dreams, visions and inspiration can be conjured. The sono-imagination, the kinesthetic imagination, the image imagination and narrative imagination are spawned in this place. Perception is schooled in this place and memory is housed here. The mediator of the elemental relationship is vibration, and thus music can define and decree the relationship of elemental existence.*

In its integrating and transforming capacity, sound can be compared to fluid. As with fluids in Andean thought, sound is exchanged between the body and the environment. (Classen, 1993)

## Chapter Two: Proportional Existence

Further understanding of sound's *defining and decreeing* role in existence is describable from the realm of acoustical physics in the concepts of standing waves, the overtone series, and resonance. This realm along with the science of Cymatics, the concept of entrainment, a discussion of human cells as oscillators, and vibrational therapy substantiate this chapter's reflective theory about a universally-proportionate relationship.

Sound defines space. Sound occurs as a result of vibrational energy in waves. It is quantified as rate (number of waves over time) using a Hertz measurement. Hertz corresponds to the terms frequency, pitch, and note. There are an infinite number of frequencies within the universe and the human audible range is approximately 16-20,000 cycles-per-second.

Anything that vibrates produces a sound (whether it is audible or not) and alters its environment by creating periodic waves. The environment being altered may be body tissue, the heart, a lake, the air, an electrical field, or anything else. (Wein, 1987, p. 74)

### Standing Waves

In my undergraduate acoustical physics class, the standing wave was one-dimensionally demonstrated with a string on a wooden frame. [I can remember similar although un-named experiments with a skipping rope when I was a child]. Simply, when the string is made to vibrate in two arcs, there are three nodes (the ends and the center). When these nodes appear stationary, the arcs are called standing waves and have the capacity to transfer energy. It is possible to attain any integral number of half wavelengths (arcs) but fractional lengths cannot be sustained. It is the point when the wave is most

energy efficient and can transfer energy to another medium. This is the basis of *resonance*. The lowest frequency (largest arc) or standing wave attainable on the string is called the fundamental and each increasing integer called harmonics. Harmonics are proportionately identical, regardless of the fundamental frequency, together they are termed the overtone series. The mathematical relationship of the overtone series was the basis for much of Pythagoras's work. Musically this corresponds to the *intervals* octave, fifth, fourth and so on.

Pythagoras's pronouncement of the mathematical relationships in the physical properties of sound (500 B.C.) provided a foundation for Greek society to view music with great respect. The relationship between mathematics and music was seen as an outward manifestation of the material order of the universe. Music was not merely the interplay of beautiful sounds, it was a system wedded to another system (nature and universe) that provided order and structure to life. This idea became a cornerstone of modern thought concerning music and its relationship to human beings. (Roskam, 1993, p. 12)

### Resonance

The relationship of resonance and standing waves is intrinsic. "When a structure is in resonance (which means that it vibrates at a frequency that is natural to it and most easily sustained by it), it implies the presence of a standing wave" (Halpern and Savary, 1985, p. 237). Sympathetic resonance occurs when the vibration established by an oscillator resonates another medium. This is a transfer of kinetic energy. Like a violin body which amplifies the vibration of the string, resonance is "the ability of a substance such as wood, air, metal, and living flesh to vibrate sympathetically to a frequency imposed from another source. All material substances have natural resonating frequencies" (McClellan, 1991, p. 21). Further, every molecule and atom are oscillators, originators of their own

vibration.

We know that crystals, violins, bodily organs-in fact, all physical matter-produce detectable tones. The phenomenon of resonance, or sympathetic vibration, is not contingent on volume, but on pitch. As long as an object contains within itself the proper vibrational capacity, it can be 'played' by outside stimuli in harmony with its vibrational makeup. (Halpern & Savary, 1985, p. 37)

### Vibrational therapy

Resonance, as a state where energy can be transduced from one form to another is a major tenant of the reflective theory at the close of this chapter. It is also paramount in the work of medical doctors and sound practitioners using vibration to treat health.

McClellan (1991), a medical doctor, makes a strong case for each conglomeration of cells (organs, tissue, bone) having its own resonant frequency. According to density and function, each body part resonates its own frequency, in or out of harmony with the overall body frequency. His book *The healing forces of music* is an in-depth treatise of his theories and work.

It is notable that there are two approaches of sound in therapy use. One is strictly vibration therapy, using a sustained frequency(s) to resonate the body or areas therein. The second is using music, or frequency with rhythm in aesthetic arrangement. Because instruments have been developed that can read simple vibrational emissions and create precise generations of others, vibration therapy is more strongly allied with physiological healing whereas music therapy has a stronger history of application in psychological healing. Research of ultrasound provides many allusions and information as to the potential uses of sound as physiological medicine. Using sound waves to break up gall and kidney stones is already common medical practice and the profession is only beginning to

utilize the potential of vibration (wave) medicine.

Radionics is based on the principle of oscillatory frequencies and employs a simple machine, called a Pathoclost, to detect, diagnose and modulate the fundamental energy patterns of the human body. The basic premise of radionics is that each individual organism radiates and absorbs energy through an extended electro-magnetic force field that surrounds it. In humans this field is very complex and is associated with the various organs and systems of the body. Any change in the condition of the body is reflected in a change in the force field. Radionics specialists claim to be able to determine the origin of the change in force-field by diagnostic methods. Once the ailing body part is discovered, the frequency rate being emitted by the body part is determined. The frequency rate is then duplicated by the Pathoclost and beamed back to the body part. It is a basic premise of radionic therapy that if the vibratory frequency radiated by two substances is identical, the frequencies will neutralize each other. Duplicating the radiations of the diseased tissue neutralizes and dissipates the vibrations of the disorder and weakens the molecular bonds of the diseased cells to literally “break up” the disease. In this treatment method the frequencies are above the level of human hearing, therefore, no sound is heard. Radionics is related to Radiesthesia, e.g., divining and dowsing, and utilizes some of the principles of Color Therapy. (McClellan, 1991, p. 50-51)

The importance of each cell being a creator of vibration with the potential to attain a standing wave and therefore resonance is a metaphorical node within my reflective theory of proportional existence. The power of this concept takes on another dimension when considering the additional information that sound creates both wave and form, the study of which is termed Cymatics.

#### Cymatics: The Creation of Form

Form is arrived at whenever a stable, even though moving equilibrium is reached. Changes interlock and sustain one another. Wherever there is this coherence there is endurance. Order is not imposed from without but is made out of the relations of harmonious interactions that energies bear to one another. Because it is active order itself develops. It comes to include within its balanced movement a greater variety of changes. (Dewey, 1934, p.14)

An oscillation (origination of a pitch) simultaneously generates both wave and

form. The discovery of form inherent within any pulse (repeating oscillation or vibration) is attributed to the work of German physicist Ernest Chladni at the turn of the eighteenth century. Chladni scattered sand, metal filings and other granular substances on a steel dish, and then played a single note on a violin near enough to reverberate the dish. Shapes and patterns emerged. Swiss physicist, Hans Jenny, photographed and studied these patterns and shapes on liquids, gases and granular substances and coined a new science called Cymatics. Cymatics, from Greek, *kyma* meaning wave, is now the study of wave form phenomena. The patterns created by waves are invariably concentric circles, star-shapes, hexagons, and crystal shapes like snowflakes (Beaulieu, 1987; Campbell, 1997; Henebry, 1991). “Jenny concluded that virtually every organic shape can be duplicated by the use of sound” (Henebry, 1991, p. 126). Speculative theory in this area considers the possibility that all energy (virtually the universe) is ordered into its specific cellular structures through vibration. It has been postured that the shapes of flowers, trees, mountains and the universe itself is inherent because of these principles of sound (vibration).

Perhaps in some sense, these vibrations maintain life itself. It is quite possible, as Laurence Blair suggests in his *Rhythm of vision* (1975) that the geometrical and vortical forms appearing on Dr. Jenny’s disc do so because they symbolically represent an underlying order of the physical universe and human consciousness. (Halpern & Savary, 1985)

It is interesting to note that the patterns and shapes seen in the sand are actually the inverse of the vibrational patterns created by the sound. This is because the substance settles where there is no vibration; ironically, the empty places contain substance, or energy which conveys substance.

Again, this understanding has been applied within medical practice. Karolyn van

Putten (1992) in her doctoral dissertation claims that P.G. Manners has twenty years of unpublished case studies developed around the use of a five-tone cymatic synthesizer to cure arthritis, bone, muscle and internal psychological disorders (van Putten, 1992, p. 12).

The future of Cymatic therapy in *Technology Tomorrow* (June 1980), Dr. Manners claims that contractions of a striated skeletal muscle involve actual vibrations of sound, which, with the aid of a delicate microphone, can be made audible to an observer as a muscle "tone". Similarly, research demonstrates that the liver vibrates at a different frequency from the heart. According to Dr. Manners this means that "all processes taking place in the active muscles are organized as vibrations, chemical, energetic, di-electrical and structural processes follow patterns of regularity imposed by vibrations." Dr. Manners goes on to say that "careful observation of structures excited by vibration and sound show that, when they move, they invariably move as a whole, They do not disintegrate or fragment, but move collectively, it is legitimate to speak of a total or holistic process. (Halpern & Savary, 1985, pp. 38-39)

#### Entrainment

A British study in 1972 which supports Manner's claims was able to "synchronize a particular part of the cardiac cycle to an external, audible click" (Wein, 1987, p. 74).

When the researchers sped up the rate of the clicks, the heart rate sped up, too. When the clicks slowed down, so did the heart. "Not surprisingly, many laboratory studies have shown that slow, quiet, non-vocal music tends to lower heart rate, blood pressure and muscle tension. Faster music tends to heighten them". This phenomenon of an external rhythmic influence is called entrainment.

Technically, entrainment is the mutual phase-locking of two oscillators (objects pulsing in a regular period). Awareness of the phenomenon stems back at least three hundred years to the Dutch scientist Christian Huygens who noted that two pendulum clocks mounted side by side, would swing together with a matched rhythm. Furthermore,

their synchronicity remained beyond the clocks' mechanical accuracy (Halpern & Savary, 1985; Merritt, 1990; Moreno, 1995). "Entrainment is a universal phenomenon. Thus, whenever two or more oscillators in the same field are vibrating at nearly the same time, they tend to shift their pulse so that they are vibrating at exactly the same time" (Halpern & Savary, 1985, p. 45). Synchronizing an orchestra and ultimately a hall of listeners is also an act of entrainment.

Within music experience there exists both rhythmic and frequency potential for affecting the listener. Matter is not so fickle however as to adopt any frequency or pulse and therefore the concepts of resonant frequency and resonant rhythm must be considered. The potential of this being among the reasons for individual manifestations and continuations of culture, language, and modes of cognition is further developed in chapter four. To conclude this chapter, this information about standing waves, resonance, the overtone series, entrainment, vibrational therapies and cellular oscillators substantiate the reflective theory of elemental proportion.

Theory of elemental proportion

*That I am able to vibrate my bones while singing is indisputable for me. It is a sensation much slower than a shiver travelling from my toes to my head although it follows the same path. It resembles sitting in my father's Lazy-boy with the heat and the vibration turned up full. It is the vibrating of my intervals to a restorative health, releasing tensions and renewing connections as resonance allows for an energy transfer to be made. The transfer is made because there is a natural proportional relationship of my bones to the cartilage and musculature that mobilizes them. This proportional*

*relationship is the same proportional relationship of the overtone series. If it was not, using the logic of the principles of resonance, standing waves and Cymatics, they would not have attained form. That is to say that growth is possible through the transducing of energy and one way energy is transduced, is through proportional relationships of standing waves and resonance. Again, this is the manifestation of form, into what can be termed the intervals of relationship. It is the health, the vibrancy, the harmony, and the vitality of these intervals which music healing can address.*

*A hypothetical example would be assigning the speed of, for example, A 440 hertz/second to the vibration that I am able to send through my spine. Then the healthy cartilage around it vibrates at E 660 hertz/second. It is the theory of resonance. But, if exercise, strain, laziness, atrophy, poor posture, trauma, genetics or any other life experience has caused a structural vibration to be other than the proportional relationship of the structures around it, the transfer of energy is not as easily made, the dynamic is off, the intervals are untuned.*

*Each element (tissue, bone, fluid etcetera) has its own harmonic structure (elemental vibration) which renders it integrally different, separate. Structures (forms) are defined, strengthened and weakened by their interrelationship. The relationships (intervals) define space, nay are space. A sound can usurp or occupy a large space with varying force. Interplay between different vibrations is the interplay between the elements and between the resulting forms. There is a natural and unmistakable environmental change that occurs when one vibration contacts a different vibration. This is dynamics. This process happens through harmonic transitions to affirm form, or through*

*disturbance, alarm or confusion, to destroy intervals and thus form. For this theory this is defining the process which determines the state of the internal and external relationship of a being, its dynamic, its harmony.*

*An important concept about intervals lies in their simultaneous existence in both space and time. When I sound a note and then another, the relationship (distance) between them is considered an interval, an interval over time. However, each note has a vertical interval-relationship to itself. Inherent within any pitch are numerous other pitches, proportionally harmonic to the original which resonate within that pitch. This is what I will call spatial intervals. In my perception, spatial intervals have the potential to exist in all people, actions and relationships. When a moment, person, activity or relationship lacks motivation or vibrancy, they are without spatial-intervals, flat and colorless. This is a physical existence and can be remedied through physical means.*

*If my bones do achieve sympathetic resonance, then a standing wave is present. A resonant frequency assumes a standing wave. A standing wave transfers vibration energy or sound into kinesthetic energy, heat, and movement. This is the basis of something called sonoluminescence. A simple experiment of such phenomena is a 'bubble' in a vacuum made to attain a standing wave using sound vibration, at which time it pulses blue (high energy) light. The juries of physicists are currently out on the accepted verdict of this phenomenon. However, if one is able to vibrate living cells at their own resonant frequency, enacting the phenomenon of sonoluminescence, then maybe there is something to religious singing inducing enlightenment and maybe the metaphysical is as physical as it is meta.*

*This is my theory of elemental proportion within the body, the same as within the river. The vibrations can loosen deposits of sedentary chemicals, causing them to rise like bubbles from the mud. Like heat in chemistry, music serves as the energy toward chemical reaction. However, as in all things, the opposite can also happen. Yelling, screaming, and even lying can perhaps reverse or invert the process. Noise, and regulated daily rhythms which are counter to, or distant from, naturally proportionate ones, build human rivers that look like irrigation ditches or concrete canals. They are still viable, livable, living, yet when one begins to develop aesthetic or affect change, the water relentlessly desires a more natural course and resists superficial reparation. Then the earth bed, and everything else about the ecosystem needs to be rebuilt. The question is as profound as to whether humans can or want to rebuild their internal ecosystems as to whether they can restore the Earth's ecosystem to a vibrant health.*

But one might ask, was the 'Harmony of the Spheres' a poetic conceit or a scientific concept? A working hypothesis or a dream dreamt through a mystic's ear? ... At the turn of the sixteenth century, one Johannes Kepler became enamored with the Pythagorean dream, and on this foundation of fantasy, by methods of reasoning equally unsound, built the solid edifice of modern astronomy. It is one of the most astonishing episodes in the history of thought, and an antidote to the pious belief that the progress of science is governed by logic. (Koestler, 1959, p. 33)

### Chapter Three: Grounding Attention and Centering Intention

Ground has many definitions (Oxford reference) two of which are particularly appropriate for enhancing what I mean by the word. The first which applies to human functioning is: *foundation or motive*, the next is: *to connect with the earth as a conductor*. Both of these definitions apply to the concept of a grounded person or a grounded thought or a grounded action. An ungrounded thought, person or action is easily distracted. A task without appropriate foundation or motive is unattended, quick to distraction or confusion. Ungrounded words are ones without thought, without reflection, without depth, without connection to the earth as a conductor. One way to consider this is electrically, and I by no means discount such a consideration. However, one is quickly dismissed when discussing electrical charge of the human body without mechanical means of measurement so I will not discredit myself so easily. Rather, I will discuss a connectedness with the conducting earth as attention and awareness to existence, to surroundings and to relationship.

#### Heisenberg Principle

The second universal understanding from quantum mechanics which pertains to this discussion of music healing and particularly grounding is *Heisenberg's Uncertainty Principle*.

In studying sub-atomic particles, Heisenberg and others found that if they wanted to pinpoint the location of a particle (i.e., electron) and also know its momentum, they could only determine one of these with any accuracy. Either momentum or location could be known, by the more precise the measurement of one, the less could be certain about the other. (Henebry, 1991, p. 24)

The philosophical implication of this theory is that one ultimately chooses what is to be determined as one's reality or truth (belief system); it suggests that we create our own reality and that there is no absolute truth separate from our observations. "The quantum logic of this principle suggests that truth is based in us" (Henebry, 1991, p. 25).

It has been a recurring theme for me to return to the truths of stories of personal experience to facilitate, explicate, and *ground* my research. This return to personal experience is the grounding action of my academic inquiry, and similar to the grounding concept in my music healing/learning practice. Music is a sensorial experience of vast texture, especially when one is creating sounds. It is a grounding experience, when the majority of the potentially-separate human functions, function together.

In the aesthetic dimension, our senses are stimulated by sound, color, pattern, texture, etc. Through the senses, we perceive beauty and the doors of perception open into development of consciousness. Thus there is an intimate link between sensation and consciousness, the space between self and world. In the world of human development and healing, consciousness is the gateway to change." (Kenny, 1989, p. 55)

### Listening

An immediate enactment of the grounding process is listening. Alfred Tomatis is a medical doctor whose work of the past 30 years in France has led to over 200 schools and health centers dealing specifically with sound and vibration medicine. He specifically addresses the relationship of physical posture to listening, and the relation of the vestibular system (balance and muscle movement) to hearing (Campbell, 1997).

Tomatis' development of an area of study now termed Audio-psycho-phonology implies that listening involves motivation to use hearing to communicate and that the

ability to listen affects the ease to communicate in language. According to Tomatis, the function of the aural apparatus itself is paramount in the defining of both brain structure and development and his work training listening shows positive results in relation to communication, attention span, frustration level, reading comprehension, quality of speech, memory, spelling and maturity. Listening as opposed to hearing is a major area in question for those studying the function of the ear to the brain (Campbell, 1997).

Hearing is defined as a passive process whereas listening is active and demands attention. Tomatis' work addresses the large role that hearing and the function of the aural processors play in human behavior. This behavioral perspective explains in another way, the success music therapy has had. Glynn (1986) explains that melodies with "distinct rhythmic patterns" are used with elderly patients to "enhance behavioral patterning." "The music, together with the enhanced body rhythms, promoted a collaborative spirit and a greater sense of social awareness within the group which was evidenced by increased gesturing, smiling, and general animation" ( p. 9). The ear has bearing on how human's perceive the world and thus interact with it. Tomatis is exploring the psychological roots of hearing loss and thus the relationship of the human consciousness to hearing (Campbell, 1997). What we hear becomes the foundation of our belief systems and the interpretation of our sensory perception, our truth.

Because of the connections of hearing with all parts of the organism, sound has more reverberations and resonances than any other sense, it is quite likely that the organic causes that render persons unmusical are due to breaks in these connections rather than to inherent defects in the auditory apparatus itself. What has been said in general about the power of an art to take a natural, raw material and convert it, through selection and organization into an intensified and concentrated medium of building up an experience, applies with particular force to

music. Through the use of instruments, sound is freed from the definiteness it has acquired through association with speech, It thus reverts to its primitive passionate quality, it achieves generality, detachment from particular objects and events. At the same time, the organization of sound effected through the multitude of means at the command of the artists -a wider range technically, perhaps, than of any other art save architecture -deprives sound of its usual immediate tendency to stimulate a particular overt action. Responses become internal and implicit, thus enriching the content of perception instead of being dispersed in overt discharge.(Dewey, 1934, p. 238)

*The consideration of the concepts of perception, truth, and consciousness become elements of music healing, one's which I pursue in a reflective manner. The initial music healing task is to alert and coincide the processes of perception to immediate sensorial existence, to be grounded. One fundamental aspect of the counselling psychology training I have undergone is genuineness. Our genuine relationship with all that is about us is based in sensorial awareness. Powerful music has the capacity to overwhelm cognition and immerse the mind in sensorial existence, awakening consciousness, reaffirming the immediacy of living, lifting us from distraction, promoting resolution of personal conflict, for we can be destroyed by our distractions. Lost in self we can lose contact with sensorial existence, a state of self-consciousness.*

#### Attention and intention

*Humans have an astonishing capacity to discover and learn what they turn their attention towardly. Like an ant who dedicates life to tunneling a civilization into a space of earth that is accommodating, so it is with human thought and action. To spend one's life attending to a particular learning, any learning, is to make that space reveal self to the person consuming it. We make that understanding reflect external and internal reality and confirm through the energy and attention put toward it that it (whatever it one has*

*chosen, it to be) is true. What occurs to me as fundamental truth then is not the manifestation of human energy and attention, nor the realizations, understandings and codes developed in chewing up any certain piece of ground, but the energy and attention itself, the energy to attend, and the strength and training to focus, and maintain attention. Any learning that is toward developing this skill is far better learning than what the using of this skill might reveal as reality or ultimate truth and exchangeable knowledge. Here again music reveals itself to me as a potentially powerful and altruistic teacher. It is not the technical virtuosity rendered through using the skill that is the desired goal, it is the training of the attention, the ability to stretch in a chosen direction and maintain that direction without distraction or dispersion of the attention, without the loss of grounding.*

*With a focus of relationship, I forge my music. Considering all aspects of self in terms of relationship, attention, intention and grounding I go about change by changing the state of harmony about me, about my thoughts, attitudes and internal and external musical approaches. To ask (through music), the favour of that which is perceived as outside one's control is an ancient human practice. Be it storms, gods, enemies or lovers, the power of song as the mediator of relationship has long been practised by humanity. Whether the entity toward which the intervention is directed is a conscious and receiving one, is of less concern than is the initiator of the intervention, the source of the desired change. I will not debate the possibilities or potential of a cosmic consciousness or psychic activity, but concern my work to the training of intention and the necessitating of action toward that intention. Simply, I mean that whether or not the intended recipient of*

*a song in request of relationship change perceives that song in any manner is not so important as the change that creating and delivering such a song establishes in the intention and attitude toward the relationship of the initiator of the song. (From a system's perspective, the desired recipient would 'get the message' through the changed attitude of the initiator). It is in this way that the training of intention in the field of music intervention, a field which has been the realm of prayer in human practice through history and across cultures.*

*In the consideration of intent and attention, as healing process, will and consciousness must also be addressed. By will, I venture to consider desire, motivation, instinct and spirit. Through learning of intention and attention, one becomes conscious through realizing will. Music learning can be a guide towards learning intention, attention, will, and consciousness, a training in self-negotiation and learning of personal character.*

*Now how does music do this? Simply, as a musician, when performing, I am striving toward the re-creation of feeling, of sensation which can be transduced to sound. This striving is attention, the feeling I strive for is intention. The knowing of my intention and the development of my attention become as clear as the notes I sound, my will. This clarity reveals and realizes consciousness, a state of other- than-self-consciousness.*

*In poetic form, I am able to deliver these ideas inclusively in a piece entitled:*

The healing story

*To begin is to enter into a song in the singing. To give word to thought is to give voice to that which has not yet made sound. A wail of another newborn. To speak of music within any limited context, is for me, not to*

*Speak of music. Rather to speak of music is to speak of pulse and breath, silent or voiced, it is life.*

*Life is to put forth a sound, a vibration and reverberation from a source, a living oscillating source, a self. This is the breadth I consider as I begin to utter thoughts about music healing.*

*Utterance divulges intention. From where, how and why is this sound being made?*

*Sustenance reveals attention. With what strength, what sensitivities, what learning is this sound supported?*

*Intention and attention can be considered elements of individual generation, the confirmation of the source. How a sound is put forth and how a song is continued are modes of recognition and awareness fundamental to addressing healing. With this as breadth, resonance is depth.*

*Depth at which utterance and sustenance attain congruence with what is other than self-relationship. Resonance is power to reverberate and cause movement, form and structure. It is the resounding force inherent within all music healing ... aye, within all. To heal can be considered the conscious enacting of resonance.*

*To restore resonance is to alter intention and attention, to restore substance, fiber, character and growth. Grounding and Centering are modes of enacting and strengthening resonance for resonance is contingent upon the presence of standing waves.*

*Standing Waves are a dynamic stillness from which form is re-manifest and structure is revealed through re-tuned intervals of spatial relationship. Re-rooting and re-opening transpire, and respiration, inspiration return. Re-sensitization incurs.*

*This sequence can be enacted in retroversion (like a palindrome). Re-sensitizing through listening and breathing incites resonance. Resonance activates re-forming, de-structuring through re-movement, re-tuning intervals, re-aligning space, and re-rooting. Grounding and centering are facilitated. In retroversion, this process can be considered cleansing in the healing process, and is not capable of sustaining the healed state, rather can facilitate the re-awakening of the source.*  
(Personal journal March 1999)

## Chapter Four: Synthesis: Toward a Particular State of Consciousness

### Behaviour, mood and emotion

The idea that music can effect and affect human behavior is ancient and extends to all cultures and factions of societies. In the spring of 1998 I saw a brief on CBC television about playing classical music in the subway system of Toronto to discourage teenage loitering. In the same program they spoke of the Federal Bureau of Investigation, playing rock and roll music in the Waco, Texas standoff to flush criminals from their stronghold. Similarly, *muzak* claims to calm and subconsciously conduct people in public places and advertisers of television and radio use music for consumer manipulation with undoubted success.

Plato, in the early years of the 4<sup>th</sup> century B.C. believed that experiencing pleasure from listening to music was not a valid part of ethos, only the result of habit. He felt that the kind of music to which one became accustomed could make a great deal of difference in moral and personal choice. Innovations in style of music were considered dangerous then, because such innovations could go against the established order and policies. Plato felt that as music would change, so would the social milieu, and probably not for the better, “for the modes of music are never disturbed without unsettling of the most fundamental political and social conventions.” (Plato, the Republic, book 1V. Great Books of the Western world, trans. Benjamin Jowett. Chicago: Encyclopaedia Britannica (1952), p. 344. In Roskam. 1993, p. 13)

Aristotle, in about 350 B.C., stated his belief that people “became” the music to which they habitually listened. His view was that music supplied “imitations of anger and gentleness, and also of courage and temperance; and of all the qualities contrary to these...for in listening to such strains our souls undergo a change. (Aristotle. Politics, Book VIII. Chap. 5 1340a, trans. W.D. Ross, Chicago: Encyclopaedia Britannica (1952), p. 545. In Roskam (1993, p.13)

Music and sound are closely tied to the realm of human mood which may be related to the first generations of expression of emotions (wails, laughter, sighs, growls

etcetera). Music has *intention*. It is composed to move the listener, or for the purpose of mood expression, exploration and evocation, or to demonstrate technical prowess, or sheer aural gratification, or rebellion, or political activism; the list is long. The most subtle differences in mood can be transmitted and perceived through music and in turn evoke, from the listener, corresponding emotions or moods. “In the case of instrumental music it is important to make a distinction between mood and emotion. Vocal music may express emotion through lyrics but musical strains themselves create moods to which humans may respond emotionally” (McClellan, 1991, p. 138).

Physical things from far ends of the earth are physically transported caused to act and react upon one another in the construction of a new object. The miracle of mind is that something similar takes place in experience without physical transport and assembling. Emotion is the moving and cementing force. It selects what is congruous and dyes what is selected with its color, thereby giving qualitative unity to materials externally disparate and dissimilar. It thus provides unity in and through the varied parts of experience. (Dewey, 1934, p. 42)

Randall McClellan (1991) in his book *The healing forces of music* outlines the work of Kate Hevner who built upon earlier studies of Max Schoen and Esther Gatewood to categorize human moods as they best apply to music in a *mood wheel*. Her work was to

systemize the relationship of moods to music and to facilitate smooth transitions from one mood quality to its adjacent mood in sequence around the circle. In its therapeutic application, an emotionally disturbed patient in a state of melancholy, for example, could be led away from the mood gradually through the careful selection of music corresponding first to melancholy followed by music from each adjacent mood group in sequence. (McClellan, 1991, pp. 139-149)

Hevner’s mood wheel is related by McClellan to the East Indian “Ten Rasas,” an ancient practice of mood evocation and representation through artistic medium (pp. 137-147).

According to McClellan, musical mood can be determined through a complex analysis of

the:

... components or parameters of music: melody, harmony, time and rhythm, texture (the number of voices and their relationship to each other), dynamics (loudness levels), timbre (characteristics of the sound sources), range (foreground, background). Two aspects of each of these parameters should be taken into consideration: the quality of each parameter at any given moment and the way in which each parameter changes as the music progresses. (McClellan, 1991, p. 142)

### Neuroscientific research

How mood and emotion are physical responses to physiological changes is addressed by neuroscience and neuropsychology research. More specifically, the field attempts to understand the relationship of emotion and mood to body chemistry and brain function. I include this next passage in the words of Kay Sherwood Roskam because it is a concise rendering of current neuroscience theory as it relates to music and most especially mood and emotion. Knowledge of the brain within the realm of neuroscience is one of the fastest changing areas of study in this decade, and already this information may be further developed.

The auditory cortex is part of the temporal lobe, and is closely associated with the limbic system. The limbic system within the brain is 'responsible' for emotionality, aggressive tendencies, and associative memory in hearing. It is part of the hypothalamus. Together, these areas of the brain monitor incoming sensory signals, direct memory storage, and mobilize motor output.

The limbic system, unlike the cortical areas of the brain, has no learning capabilities. However, it does 'consult' the cortical areas before issuing behavior directives. Motivation and emotion are part of the limbic system's function, and are 'wired' so that the cortical areas then carry out the directives so as to be of maximum benefit to the individual. In humans, the limbic system can also respond to internally evoked images displayed on the cortex during 'thought.' In other words, emotion and motivation can be elicited with no outward stimulus, or a stimulus that is presented and is related to memory storage but has no 'real' or direct connection to emotion or motivation.

The neurons communicate by way of molecules that are released at the

synapses. These molecules are the reason that the nervous system works, and it is now believed that there may be hundreds of different chemical molecules. Even more numerous are the chemical messengers (hormones) released into the bloodstream by glands. The research into the 'messenger molecules' has also led to the discovery of a class of molecule that acts as endorphin, seems to be of importance in the processing of musical messages.

Endorphins (endogenous morphines) are transmitters that are naturally occurring brain opiates, quite similar to morphine molecules. The action of endorphins seems to be identical to the action of morphine-relieving pain and inducing feelings of pleasure. Stress releases endorphins into the bloodstream, in order to counteract the stress symptoms. Pleasure also releases these endorphins, and listening to pleasurable music discharges these endorphins not only in the brain but throughout the bloodstream. The fact that the experience of pleasure can be a 'whole-body' experience is thought to be the result of this endorphin action. Chills up and down the spine and tingling from head to toe are among descriptions of this phenomenon. (Roskam, 1993, p. 32-33)

*And so can we affect ourselves, our will and our desires through affecting music.*

*Music can awaken the subtle movement of memory and emotion, changing perspective and renewing the emotional senses. It is possible to affect our chemical processes through mood and emotion changes, and it is possible to affect mood and emotion through music. The subtlety and refinement of the conscious enactment of these changes is the training of the musician and especially the musician engaging in relationship for the purpose of therapy.*

*Creating strong and enduring sensual memory is important in the healing process, a process of change, a process incited to throw one's personal rudder with enough gusto to heave an unrelenting keel onto a new course and then propagate the motivation to keep it on that course amidst unfamiliar and dissuading tides. A dramatic, sensual, musical impression of memory gives me enduring strength toward a desired outcome. That is to say that music by virtue of its sensual nature can deepen memory,*

*encourage will and desire to hold fast to personal vows of self betterment. The enticing, calming, seducing strains of harmonies call my muscles and ligaments, my thought and feelings, my very nerves and cells to relax, to open, to release my holdings and become aware of my environment. Moreover, music modifies environment, mediating internal and external relationship. Music therapy literature extends this attribute to the trance state.*

#### Altered state of consciousness

One aspect of music's relationship to humans, implied by music therapy literature as paramount in its healing potential, is the inducement of an *altered state of consciousness* (asc). Research and theoretical work is accumulating that substantiates such a claim drawing parallels to ritualistic chanting, alpha state (the frequency of the human brain at rest), and shamanic ceremony (van Putten, 1991).

One interpretation of the attaining of an altered state held by music therapy theorists Achterberg and Rouget is that the repeated rhythmic stimulation acts on the nervous system, numbing the senses, changing the focus of awareness (Achterberg, 1985). Roskam (1993) relates a case for physiological affects as cause for trance, claiming that the sounds of the drum in the inner ear, produce changes in posture, muscle tone, heart and respiratory rate, blood pressure, digestive functioning, and eye reflexes. This parallels Tomatis' work in understanding the purpose and function of the aural mechanism discussed in Chapter Three. Other theorists have concurred with this idea, concluding that "the trance-like behavior observed in drum ceremonies is mainly the result of the rhythm, which affects the inner ear and subsequently drives the central nervous system" (Roskam,

1993, p. 7).

I also align my own understanding with Dewey's words of *depth of response*.

Only those who are so far removed from their earlier experiences as to miss their senses will conclude that rites and ceremonies were merely technical devices for securing rain, sons, crops, success in battle. Of course they had this magical intent, but they were enduringly enacted, we may be sure, in spite of all practical failures, because they were immediate enhancements of the experience of living. (Dewey, 1934, p. 29-30)

*For me it is not congruent with personal experience to assume that one state of consciousness or mode of interpreting material environment is necessarily more or less normal than any other, and therefore an altered state of consciousness is another attainable conscious state. To claim that it is altered from a more normal state of consciousness and induced through ritual, hypnosis, meditation, music, or drugs is not in accordance with my personal experience of any and all of these modes. I prefer Kenney's (1989) term of particular state of consciousness. What I do understand is that there are many levels and forms of consciousness or modes of interpreting one's reality. What I find is that these modes are trained, and are distinct cultural and experiential developments. I also find that music acts as precipitator, encouraging memory and focus toward any desired state of consciousness.*

*Even further, the beating of the heart and the rhythm of the respiratory system are in themselves the consistent, rhythmic presence of life and might be said to lull us into a particular state of consciousness or unconsciousness depending upon our attendance and awareness of them. Most consciousness questing practices of humankind require meditative attention to heartbeat and breath to acquire a particular level of self learning.*

## Music and cognition

The discussion thus develops from music's relationship with emotion and mood to consider music's relationship with thought and thought patterns. Other neuroscience research seems to be searching without accordance for the areas of the brain where musical information is processed. Peretz and Kolinsky (1993) "revealed that the processing of melodic information is at least partially separable from the processing of rhythmic information". Platel, Price, Baron, Wise, Lambert, Frackowiak, Lechevalier & Eustache (1997) show similar results with greater detail as to the quadrant and lobal locations in the brain. "The understanding of the neurocognitive bases of musical functions is still at an early stage," but Sergent (1993) attempts to "clarify the neurofunctional anatomy of musical abilities". It seems that music processing mechanisms within the brain may vary individually. Most of the research comes from patients with brain injury. Interestingly, Jochim (1994) finds that music is invariably capable of reaching any of the "still healthy" sections of the human brain.

Extensive research is being done in this area on humans and animals. In Russia, Tikhomirov and Vitvitskaia (1991) have found that musical signals "favorably influenced the behavior" of salmon fry in an open field and although it did not change the nucleic acids in the brain tissue, it did in the muscles.

There is information to suggest that the brain development and functioning of a musician is different than that of a non-musician. Schlaug (1994) cites a recent study by German neurologists saying "they found that in the musicians the planum temporale (a brain structure associated with auditory processing) was bigger in the left hemisphere and

smaller in the right than in the non-musicians. The musicians also had a thicker nerve-fiber tract between the hemispheres. The differences were especially striking among musicians who had started training before the age of seven” (1994, p. 15).

Don Campbell (1997) in *The Mozart effect*, as well as Sarnthein, von Stein, Rappelsberger, Petsche, Rauscher and Shaw (1997) illustrate a relationship between music and the cognitive function of spatial-temporale reasoning. In fact there are many speculations about the mind’s ability to perceive reality as third (space) and fourth (time) dimension being associated with the aural apparatus (Campbell, 1997; Merritt, 1990).

One interpretation of this process is termed analogical reasoning is defined as the process of identification and transfer of a relational structure from a known system or the source to a less known system or the target (Vosniadou, 1995). It is argued that this process is fundamental to the acquisition and use of external representational systems such as oral and written language, arithmetic and music and is thus an important aspect of cognitive development (p. 297). It could follow that it is the analogical reasoning function that is necessary for the acquisition of the external representational system like music, and not the music which develops the reasoning function. I deduce that it is both. Kenny (1989) terms this process organization and approaches it as such: “Organization is consistently a topic of theoretical concern among music therapists. Does the person organize the music or does the music organize the person? When and where is each appropriate?” (p. 41).

#### The Mozart Effect

*The relationship between intelligence and music, or the Mozart Effect (Cambell,*

*1997), is, in my understanding the relation of music to structure and multilayered or contrapuntal movement. The brain, when listening to music using a highly structured development of tension, resolution, thematic development and return to original material, learns a sequence of circuitry it then follows in application. That the music of Mozart epitomizes the Western tradition of classical thought, of thematic development, action and consequence, development and return are my understanding of the reasons for the enhancement of Western intellectual constructs through attending to his music. The assumption, however, is that western classical thought is the highest or most desired development of intellectual capacity, the way one's brain should function. However, that there are other ways of attending to the training of the abstract development of the human potential is apparent.*

Information from many sensory modalities may converge into a blending of the senses called "synesthesia". These combined modalities may then remix with memories to create a rich source of stimulation for creativity and inspiration ... Music is a powerful agent for stimulating synesthesia. Patterns of music are translated in the brain into electrical impulses that may reproduce the same pattern in different senses. When we hear a certain pattern in the music, it may remind us of a visual image, a sensation, or a feeling. This stimulates multi-sensory associations. Memories then blend in with the palette of senses and emotions for it is the connection with our experience that gives music meaning to us. (Merritt, 1990, p. 144)

### Changing realities

*I include the neuroscientific field of research within my perception of music healing not because any one aspect is an answer, but to show that scientific research confirms music's ability to change the human mind. This mind change, be it called lifting the spirit, suspending judgement, looking at things from another perspective, or taking a*

*break from daily routine and worry, is an important aspect of the healing process. I use the term from my apprenticeship with Pepe Mendoza, changing realities. Any change of perspective is potentially a new awareness, a shifting of ingrained thinking or a raising of consciousness. Whether re-ordering thought is a physiological, chemical, or neuronal process is not my area of expertise, but that music has the power to alter brain functioning, shift perspective, change realities, bring awareness and raise consciousness is central to my work as musician.*

Art is thus prefigured in the very processes of living. A bird builds its nest and a beaver its dam when internal organic pressures cooperate with external materials so that the former are fulfilled and the latter are transformed in a satisfying culmination. We may hesitate to apply the word “art” since we doubt the presence of directive intent. But all deliberation, all conscious intent, grows out of things once performed organically through the interplay of natural energies. Were it not so, art would be built on quaking sands, nay, on unstable air. The distinguishing contribution of man is consciousness of the relations found in nature. Through consciousness, he converts the relations of cause and effect that are found in nature into relations of means and consequences. Rather, consciousness itself is the inception of such a transformation. (Dewey, 1934, p. 25)

In the consideration of consciousness and cognition as aspects being treated or developed through music training and/or therapy, the process of imagination quickly becomes associated with music.

#### Guided imagery with music

Music’s relationship to imagination was mentioned in chapter one where music was the *mediator of the place where imagination was spawned*. This relationship has developed into a particular area of music therapy called Guided Imaging with Music or G.I.M., and is attributed to the work of Dr. Helen Bonny. “Helen Bonny asserts that we can learn to use music to uncover the imaginal world each person carries within which

strongly colors and modulates our outer perceptual world” (Roskam 1993, p. 7). G.I.M.

is defined as

an individual form of therapy, healing, or self-actualization which involves imaging to music in an altered state of consciousness while dialoguing with a guide. When used in psychotherapy, G.I.M. is an uncovering technique which accesses unconscious material, facilitates cathartic releases, and leads to deep insights into the inner psyche ... In the music-imaging process, the client may have body sensations, visions, feelings, memories, fantasies, or any variety of internal experiences, all of which are regarded as images (Bruscia, 1996).

G.I.M. has a history in the Western classical tradition of music and concert going called the tone poem. The concept and practice of directing the listener’s imaginings using poetry printed or spoken before a performance was a common practice of the classical and the romantic eras by composers such as Johannes Strauss. The more common historical association in the G.I.M. literature is to aboriginal and African ceremony where the shaman guides the group with sung voyages into the underworld of their imaginings. Any song with lyrics, I include within this realm of guided imagery and music.

Imagination

Imagination is by definition “the mental faculty forming images or concepts of objects not existent or present, the creative faculty of the mind” (Oxford dictionary, 1986, p. 410). In English, the term seems to be inclusive of the capacity to summon sensual perception not just to do with an image or the capacity of the eyes, but also to conjure perception of sound, of smell and of feeling both textural and emotional.

*It is the summoning, conjuring, connecting capacity which I believe is what is meant in the former definition as “the creative faculty of the mind.” The words conjuring and summoning evoke thoughts of the occult, of witchcraft, of underground insecurity*

*and undeclared deeds, not without precedence for this is the lineage of the training of the imagination and precisely why there is a refusal to address the empirical viability of such an aspect of humanity. In conception, science was spawned in reaction to the practice of imaginal life and was set up to discount its very existence. Ironically it is the very place where scientific genius itself lies. Not surprisingly, music's potential to encourage and focus the practice of summoning and conjuring was revealed in the discussion of altered state of consciousness.*

*The thing about imagination, be it kinesthetic, visual, aural, textural or emotional is its absolute evocation of sensation and therefore the ability to make material (of the senses) what is immaterial. Therefore, if one is able to develop imagination to strongly manifest itself in sensation, then there is no separation of sensational and illusional reality; there is only strength of perception toward illusion or toward sensation. In the decade of the seventies this was understood in the dominant culture as the power of positive thinking. But, imagination is not necessarily from the realm of either sensation or illusion, rather it is the movement, the animation or the passing between them. The ability to connect and communicate with that place, the place which I have called the border of the river in chapter one, becomes the ability to enact healing.*

*Imagination can work in various modes. One is a sort of wandering daydream which explores the realm of emotional essential in images: this, for me, is most often visual, rarely of the other senses. The second form or usage of imagination is actively intending outcomes, lucidly participating in the unfolding of a narrative, a scene or a character with a development or transition. A third mode is that which can be known as*

*vision and is remarkable for its detail, clarity, and inclusion of all sensation modalities. These modes or styles of imagination I find equally applicable to the process of dreaming as for waking. For music healing, the intimate and personal relationship of music with imagination provides a link to the making conscious of one's internal state.*

*Imagination is an abstract process, as is language, mathematics, and music. The development of abstract thinking is a major focus of the Western education system, yet the development of the imaginative process is considered only when addressing creativity. Imagination is the way humans perceive of future. Language and culture- which in themselves are constructs of climate, fauna, geography and wildlife- are abstract metaphors for the human perception of relationship to other than human and other than self. If one does not tend to the continued development of imagination then one loses the ability to perceive.*

## Chapter Five: Personal Philosophy and Natural Aesthetic

### Philosophy

Within the book *The field of play: Toward a theory of music therapy*, Kenny (1989) outlines the history of music therapy. This history parallels the history of my own inquiry. Bordered by many disciplines of the academic age, music therapy struggles for language and theory of its own which can accurately represent the experience of music therapy. “There may not be a well-grounded theory. However there are tendencies toward theory, which constitute seeds for theoretical growth in this field” (Kenny, 1989, p. 40). She speaks of the discipline’s need to explore and define (as I was) the human/music relationship. More over, she expounds her theory of the music therapy experience, not as it relates to medicine or psychology, but as a discipline with its own distinct language and mode or perception, calling for other music practitioners to do the same. “True accountability cannot be satisfied by research methods finding their source in theories which do not address the essential elements of the experience of the creative process, a fundamental aspect of the creative arts therapies” (Kenney 1989, p. 26).

Kenney (1989) devotes much of her book to addressing movements in philosophy and the importance of developing and articulating personal philosophy toward personal theory to guide practice. She expounds upon the direction of phenomenology, toward hermeneutics, general systems theory and field theory as foundations for her own thoughts about music therapy. Again, as with my initial research into the subject, my own writings mirror such a journey. Turning to story I traced the philosophical steps on a personal level of recounting experience toward understanding the importance of sensorial basis of

thought. Through this I came to expound upon the philosophy of my work, a full year before reading Kenny's work.

Experience in the degree in which it is experience is heightened vitality. Instead of signifying being shut up within one's own private feelings and sensations, it signifies active and alert commerce with the world; and at its height it signifies complete interpenetration of self and the world of objects and events. Instead of signifying surrender to caprice and disorder, it affords our sole demonstration of stability that is not stagnation but is rhythmic and developing. Because experience is the fulfillment of an organism in its struggles and achievements in a world of things, it is art in germ. Even in its rudimentary forms, it contains the promise of that delightful perception which is esthetic experience." (Dewey, 1934, p. 19)

It is the strength of the aesthetic experience which I find directly proportional to the strength or depth of music healing, learning, and change in general.

In a world like ours, every living creature that attains sensibility welcomes order with a response of harmonious feeling whenever it finds a congruous order about it. (Dewey, 1934, p. 15)

What attributes to the *congruous order* of which Dewey speaks, an order which evokes a *response of harmonious feelings*? The discussions of vibration, resonance, entrainment, the overtone series and cymatics from Chapters One and Two provide me with the conceptual answers to this question.

The fact that civilization endures and culture continues-and sometimes advances-is evidence that human hopes and purposes find a basis and support in nature. As the developing growth of an individual from embryo to maturity is the result of interaction of organism with surroundings, so culture is the product not of efforts of men put forth in a void or just upon themselves, but of prolonged and cumulative interaction with environment. The depth of the responses stirred by works of art shows their continuity with the operations of this enduring experience. (Dewey, 1934, p. 28).

The words "human hopes and purposes find a basis in nature" ... and "the depth of the responses stirred by works of art shows their continuity with the operations of this

enduring experience” are a grand testament to humanity’s connection to what is natural through artistic experience. According to the Oxford Reference Dictionary (1986) natural is “of, existing in or produced by nature” (p. 558), and nature is “the phenomenon of the physical world as a whole, the physical power causing these” (p. 559). The inclusive underlying motivation of my work is to engage others in “the depth of response” through involving them in intensely natural moments. The greatest challenge is to facilitate moments where the group and the activity reach a “natural” state, a state of spontaneity and creativity.

It is possible to further address the state of natural aesthetic for which I strive, and out of which comes the depth of experience. There are three important elements that I perceive necessary to achieving this state of natural aesthetic. The first integral element in the facilitation of a natural aesthetic are the physical materials employed: the melody, rhythm, story, symbol, the working space and the state of the musician and the listener. I have called this presence, it is the health of the musician, the tuning of the instruments, the appropriateness of the space, and of state of the client. The quality of all aspects of these elements is directly proportional to the natural aesthetic, and therefore to the healing potential attainable.

The second element necessary for a natural aesthetic is enough time and space to ensure the natural growth of each piece of music. It is also the faith and knowledge of how soundscapes, music and beauty manifest themselves, just as with cymatic forms, in the empty. This I have called *awareness*. The time and space necessary to create a quality aesthetic- and especially to include students, clients, or audiences within the fabric of the

experience created- takes the most subtle and complete awareness by the musician or therapist. It is a developed sense, a sense of beauty, balance, rhythm, form, shape, texture, timing, patience, essentially a sense of the aesthetic.

The relationship between musician and listener or therapist and client and have termed harmony, the third necessary element for creating depth of experience through natural aesthetic. Here intention and attention of both musician and listener as well as modes of communication and personal desires.

As the first criteria (presence) has been prepared, and as the second and third criteria are being respected, like a flower, the experience grows naturally. To continue the metaphor of the flower, the choice of material is the quality of the seed and the attention to listening and the symbiotic relationship become the sunshine and nutrients for the flower to grow. The fragrance and color it emits becomes the healing, growth which ensues. It is personal. It is life affirming.

It is possible to align my theories to Kenny's (1989) work *The field of play: A guide for the theory and practice of music therapy*. However, it is not my intention to graft one theoretical understanding to another, rather to clearly articulate each and perceive the distance between them. That distance, can be perceived as the space at the border of the river from Chapter One, as well as the interval relationship between the two theories.

Kenney relates that each practitioner and client of music therapy bring their own *aesthetic* to the therapy process. The meeting of these *aesthetics* in sound becomes, in her term, the musical space. The generation of mutual sound relationship through creativity is

the field of play. It is a creative space where new form is enacted. “This field anticipates the movement of the self-organizing system, which naturally moves toward wholeness and expansion given the strengths and limitations of the conditions in the field” (p. 84).

This *field of play* where improvisation facilitates a common musical language and relationship “yielding a creative process” (p. 85) is, as the title of her book suggests, the main theoretical vein of Kenney’s theory. I concur with this theory in so far as the musical relationship is one of direct interaction with a client or group of clients. It has been my experience however that music healing experiences need not be hands-on interactions with others. As a performer I generate healing music experiences in concert form. Therefore, I have found it necessary to generate theory which can accommodate such experience by considering what I understand Kenney to term the *field of play* as having a proportional relationship where energy can be transduced.

Kenney expounds her concept of the field of play as containing four secondary fields. They are ritual, particular state of consciousness, power, and creative process. I deeply concur with Kenney’s interpretation and theory about the music therapy experience and especially her use of field theory. Further study of her work is necessary to facilitate the relationship of her perspective with my own concerning concert, ceremony and therapeutic settings.

The Field of Play suggests an attention to subtleties, quiet and implicit non-verbal cues, which communicate the natural healing patterns of the human person and imply an order which can guide and inform us into the best movement, which will lead us into wholeness. (Kenney, 1989, p. 139)

## Conclusion

And so I leave this brief writing of my understandings about the subject of music therapy with a sense that I have merely sung a chorus in a great song of *sensing knowing*. I am closer to knowing which theoretical songs are mine to sing, the import they carry, and their relationship to the academic theories of music therapy. I desire to be closer to the practice, a practice which I embrace in every aspect of making music, be it on public stage, private teaching, personal learning, ceremony, or readily recognizable therapeutic settings such as hospitals and schools. Still, the information collected here has offered me valuable tools toward the creation of my personal world view. My function as educator, bestowed by the degree achieved in rendering this project, will be to modestly relate my informational and theoretical understandings.

The importance of this work in relation to existing music therapy work is in respectfully building the conceptual bridges between current music therapy practice, as within the accredited associations, with traditional indigenous music therapy practice. There is a new field, headed by Dr. Joseph Moreno (1988) termed ethnomusic-therapy, which takes an anthropological approach to defining indigenous music-healing practice, and a possible direction to continue my research. I perceive, however, that my own theoretical generations of understanding will remain within what might be considered the artistic realm, the realm of poetry, story, music-making, and musing. It is a realm which parallels the academic realm in conceptual understanding but employs different tools and modes of perceiving and relating.

Another important connection developed in this work is between music therapy

theory and the performing and learning musician. In learning and playing music one is often intensely aware of music's healing properties, although there is no defined therapeutic relationship. This information has aided me in making sense of music experience and could readily be made available to other musicians.

But *building bridges* between theory and practice or *making connections* between varying practice styles are less appropriate metaphors for my work than the *border of the river* metaphor introduced in Chapter One. I do not desire to graft one understanding to another by bridging or aligning concepts, nor to lead others from one theoretical perspective to another. Rather I desire to continue to perceive the space and vibration that exists between all elements, theories and practices. This is the place where new form is created and where relationship exists. And it is here, at the *border of the river*, perceiving and conveying that perception, where my work exists.

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