

The Healing Potential of Sound

“Biology gives you a brain. Life turns it into a mind.”
Jeffrey Eugenides, Pulitzer Prize-winning author

Introduction

Our senses and their connections to our brain are all remarkable phenomenon and create the self-aware context of our existence as human beings. Each of our senses influences and sends signals to our brains in different ways. In this article, I will focus on the auditory sense -- our hearing. To date, science knows much more about how we see than how we hear. However, with new advances in neuroscience and the ability to observe the brain in real time, the results of sound on the brain are being much better understood and documented.

Music and sounds have a unique way of impacting the frequencies of the brain and therefore, an individual's state of consciousness and awareness. There is also a profound effect from sound on the body's physiology, psychology and energetics.

Brain Waves

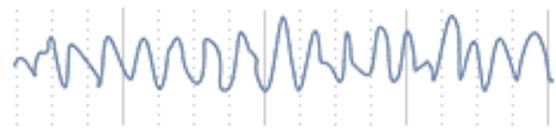
General scientific awareness and charting of distinct brain wave patterns dates only from the 1970's. Western science has established four primary brain wave phenomenon, brain wave patterns or frequencies as seen in the chart below:

Four Categories of Brain Wave Patterns



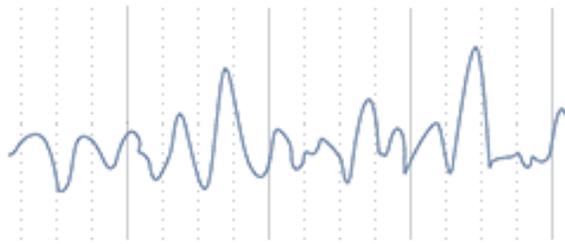
Beta (14-30 Hz)

Concentration, arousal, alertness, cognition
Higher levels associated with anxiety, disease, feelings of separation, fight or flight



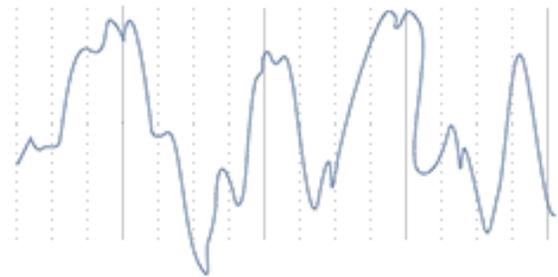
Alpha (8-13.9 Hz)

Relaxation, superlearning, relaxed focus, light trance, increased serotonin production
Pre-sleep, pre-waking drowsiness, meditation, beginning of access to unconscious mind



Theta (4-7.9 Hz)

Dreaming sleep (REM sleep)
 Increased production of catecholamines (vital for learning and memory), increased creativity
 Integrative, emotional experiences, potential change in behavior, increased retention of learned material
 Hypnagogic imagery, trance, deep meditation, access to unconscious mind



Delta (.1-3.9 Hz)

Dreamless sleep
 Human growth hormone released
 Deep, trance-like, non-physical state, loss of body awareness
 Access to unconscious and "collective unconscious" mind, greatest "push" to brain when induced with Holosync®

The experience of the higher states of brain function and the 'psycho-technologies' (i.e., techniques that purposefully affect brain function and consciousness such as prayer, meditation, drumming, movement, etc.) designed to achieving heightened brain states have been known to humanity for millennium. All cultures and religions have devised ways to achieve these heightened states. What was not known scientifically until quite recently was the measurable specifics of different brain waves and the implications of the varied states on the mind, body and spirit of the listener.

We know now definitively through scientific observation that sound and music actually change our brain waves. This is an involuntary response of the listener's brain. This specific knowledge can be utilized to alter our mental and physical performance states with a very specific laser-like accuracy.

Brainwave Entrainment

Science uses the term "brainwave entrainment" to describe the **intentional** use of sound to affect the brain. Brainwave entrainment is any method that causes brainwave frequencies to fall into step with a specific frequency that is created outside of the individual. It is based on the concept that the human brain has a tendency to change its dominant EEG frequency towards the frequency of a dominant external stimulus (such as music or sound). This capacity to directly and specifically effect the brain frequency cycles has profound implications for health, learning and consciousness. Sounds are constantly affecting our brains and our

emotional and physiologic states. Often, we have no choice in this matter: sounds happen! An important aspect of our evolution and advancement as a species can be the purposeful use of sound to enhance consciousness and physical and emotional health.

TCM Perspective on Sound and Health

In Chinese medicine, the effect of sound on the body's Qi and consciousness has been established for centuries. The concept of the Six Healing Sounds known as **Liu Zi Jue** first appears in a book called *On Caring for the Health of the Mind and Prolonging the Life Span* written by Tao Hongjing of the Southern and Northern Dynasties (420 – 589 A.D.). A leading figure of the Maoshan School of Taoism, Tao Hongjing was renowned for his profound knowledge of traditional Chinese medicine (TCM). He writes in his book, "*One has only one way for inhalation but six for exhalation.*" According to the theory of Liu Zi Jue, each of the five elements has its own exhalation or its own sound. The sixth sound is the sound of the triple warmer, which integrates the vibrations and potential of the other five sounds of the five elements.

Zou Pu'an of the Song Dynasty (960 - 1279) was a major contributor in terms of theory and practice to the transmission of the exercise through his book, *The Supreme Knack for Health Preservation - Six-Character Approach to Breathing Exercises*.

The original practice of the Six Healing Sounds involved only breath and sound. Later, in the Ming Dynasty (1368–1644), both Hu Wenhuan and Gao Lian wrote books that added physical exercises to the practice. The combination of Qi Kong exercises with the healing sounds enhances the beneficial effects of both. According to the Chinese medical theory, the Six Healing Sounds work to transform the stagnant energy stored in the organs and meridian pathways into healing light and vitality. In addition to the specific sounds of each element, TCM theory also designates specific tonals (tonics) for each of the five elements and the triple warmer. The word **Tonic** refers to the most important note in a piece or section of a piece. All of the notes of a composition (i.e., or specifically, one of the five elements in reference to TCM theory) tend to gravitate toward the tonic. In a musical piece, returning to the prescribed tonic will resolve any dissonance.

In music theory, a **consonance** is a harmony, chord, or interval considered stable (at rest), as opposed to a **dissonance**, which is considered to be unstable (or temporary, transitional). More generally, a *consonance* is a combination of notes that sound pleasant to most people when played together; on the other hand, *dissonance* is a combination of notes that sound harsh or unpleasant to most people. There is a tension in dissonance that demands an onward motion to a stable chord. (It must be noted that some cultures and some individuals do prefer dissonant sounds. Some artists purposefully compose dissonant pieces.)

Here are the tonic designations and healing sounds from TCM theory:

Metal

Musical Tonic: D

Healing sound: SSSSSSSSSSS

Water

Musical Tonic: A

Healing sound: WOOOOOOOO

Wood

Musical Tonic: E

Healing sound: SHHHHHHHHHH

Fire

Musical Tonic: G

Healing sound: HAWWWWWW

Earth

Musical Tonic: C

Healing sound: WHOOOOOOOO

Triple Warmer

Musical Tonic: Tonic G

Healing sound: HEEEEEEEE

The Metta Mindfulness Music Project

In the 35 years that I have been in clinical practice, I most often play music during treatments. The purpose of the music is to help create a calm atmosphere and also to shield the patient from random sounds from adjacent treatment rooms and the hallway. In general, I would describe the music as pleasant, mostly electronic and non-offensive. In recent years, I have become increasingly aware of and participated in the purposeful use of sounds to affect brain function, enhance the experience of meditation and expand consciousness. I have experienced very positive effects in these pursuits. One important limitation in this activity has been that the musical quality of the sounds is very limited and in some instances, simply unpleasant after repeated listening. I began to conceptualize the possibility of having beautiful music that also impacted the brain and vital Qi in a positive and purposeful manner.

A Chance Meeting becomes a Life Changing Experience

In the summer of 2011, I had the fortuitous occasion to meet Yuval Ron, an internationally acclaimed and award-winning composer, performer, teacher and peace activist. At the time, we were both teaching at the Esalen Institute in Big Sur, California. While we only had a few cursory encounters (we were both very busy teaching our separate intensive seminars: Yuval was teaching a seminar in sound and neuroscience and I was teaching traditional Thai bodywork), we both recognized a potential creative spark in our meeting. And although we lived in different cities, there was sufficient energy to pursue further communication and to have subsequent face-to-face meetings. During these discussions, our mutual interests in sound, music, health, Chinese medicine, meditation, neuroscience and consciousness began to become a dominant focus.

During the Thanksgiving weekend of 2012, I asked Yuval if he would be interested and willing to compose original music that would incorporate the ancient wisdom of Chinese medical theory along with the most current theories of neuroscience and brain entrainment. Yuval eagerly accepted the challenge. We agreed on three basic guiding principles for what has become Metta Mindfulness Music:

1. To create beautiful original music that enhances health, mental equanimity and the daily expression of loving kindness.
2. To create original music that is informed by ancient wisdom traditions and the most current advances in neuroscience.
3. To produce original music that is performed by renowned performing artists

Ancient Wisdom & Modern Sounds

In the spring of 2013, all our efforts became realized in the release of a seven-CD box set of original music that fulfilled the criteria we set for ourselves. Each of the Five Elements and the Triple Warmer has its own designated 45-minute CD. The seventh CD is an hour-long journey through all the six healing sounds. The purpose of these compositions is to provide a delightful musical experience that enhances health, facilitates the smooth flow of bio-energy in the body and mind, relieves stress, and contributes to a general sense of well-being and relaxation.

It is our hope that this music can serve the well-being and creativity of the population in general and more specifically, can be utilized by practitioners and healers to enhancement and leverage their treatments and in their treatment environments.

The author:

Richard Gold Ph.D., L.Ac. is the President and Executive Producer of Metta Mindfulness Music. He is a 1978 graduate of NESAP and has been in clinical practice for 35 years. Dr. Gold is one of the four founders of the Pacific College of Oriental Medicine (PCOM) and served on the Board and faculty of PCOM for many years.