

## **Healing Starts When We Open Our Mouths: Applying the Three Laws of Tomatis in Sound Practice**

-short report by Kerry Wilson-Kinaszewska

We know that sound affects our mind, body and spirit. Music Therapy capitalizes on the established psychological affects of sound and has greatly succeeded in its therapeutic application in the mental health field. At the physical level, we better understand the principles of energy medicine and how it works in relation to the electromagnetic fields of our bodies and surroundings. Such understanding has enlightened the debate on how our thoughts and emotions trigger frequencies that interact with our biochemistry. At the molecular level, we understand more about the role molecules play as instruments of sound energy for the body. We have known for some time how imbalance in nutrition can eventually lead to dysfunction in our metabolism. We have learnt the hard way that work-life imbalance leads to dysfunction in our families, and societies. Thanks to the research and life commitment of Dr. Tomatis, we may begin to understand with new perspective how stress, namely its psycho-physiological response cuts us off from our higher brain center, dis-integrating those functions and leaving us in a state of dis-ease. Dis-ease that we can in truth register the moment we open our mouths.

The relevance of the work of Dr. Tomatis to sound healing manifests threefold. First of all in understanding the importance of optimal listening, secondly in regarding the connection of listening to authentic vocal expression and health maintenance, and finally in supporting neuro-developmental advancements in consciousness. Additionally, we should look at the three laws underlying the Tomatis Method.

The audio-vocal connection is important for us as sound healing practitioners to understand. Understanding the three laws relevant to this connection can enhance our work and benefit clients in sound healing. By applying the knowledge we now have concerning the listening mechanism and optimal curves, and even just by using any variety of psycho-acoustically modified music, which he was the first to produce, we can bring greater wholeness to others. So, how does the audio-vocal connection influence health? How can singing, toning or chanting 3.5 hours a day, as Dr. Tomatis suggested, help us to thrive in health and wellness?

The first law states: “the voice can only produce that which the voice can hear.” Tomatis helped us understand better the process of hearing and vocal emission and their interrelationship. By filtering out low frequencies progressively, then slowly re-introducing them into a clients listening range, he helped the brain re-integrate those missing frequencies that were consequently restored in the voice. His 15 years of research showed that our existence requires both hearing and listening, which involve different processes. For the purposes of sound healing we are more concerned with the power of listening.

Listening in particular has a psycho-physiological aspect that is detectable by analysis when standard hearing levels are normal, yet a client is unable to pick up specific frequencies within that normal range. If someone can hear all frequencies up to 6000Hz and above 20dB in the left ear, why can they hear 5000Hz, but not 4000 Hz in the right ear? The answer is grounded in neural pathway development. Simply stated, the pathways that are well used remain open and receptive to flow, and therefore may also be expressive. On the other hand, the pathways that are un-used, dis-integrate and close down. We can see this same principle illustrated in relation to memory, meditative technique and muscle loss.

The first law of Tomatis is illustrated by baby talk. What are a baby's first words? Ma-ma, da-da, ga-ga...and what do these utterances all have in common? They are repetitive. This is because babies are not born with binaural listening. What they hear in the left ear travels along a nerve pathway that is 40 cm longer than the pathway nerves take when input from the right ear, so there is a delay. The faculty or state of hearing is developmental, just like with seeing and the development of binocular vision. What began prenatally continues to develop postnatally. Binaural listening comes with time and progresses, as does the shift from bone listening to air listening.

Tomatis believed that audio-vocal connection secures fundamental changes in our body. We hear it in the first cry of a newborn, if we consciously reflect on this moment as the first post-natal connection made to the earth plane --establishing and "securing" our presence through air-borne sound. We can also intuit this by walking in the woods. Exposure to nature satiates us--feeding our bodies the full range of frequencies needed for optimum growth. Environmental exposure to a full range of frequencies, as well as sound variability and unpredictability provide for our most natural audio and vocal development.

The second law of Tomatis states: If one brings to the compromised ear the possibility of hearing the lost/compromised frequencies correctly, these are instantly, unconsciously restored in the vocal emission.

The second law is important for sound healers to understand. It may prove helpful to understand how the middle ear bones focus eardrums to listen to speech and song. They tune in and tune out, like the mechanism in vision that enables our eyes to adjust the focus. For example when we just leave a dark room or pay greater attention to detail either close up or far away. The "other-than-conscious" part of the brain processing 20 million bits of data per second can essentially tune out lower frequencies and tune into higher frequencies. Lower frequencies, such as the hum of a refrigerator or the sound of a furnace turning on, are interpreted as background noise by the brain. Once recognized as such -- through a process of filtering -- those sounds disappear. This is called habituation and has happened every time we realize we can no longer hear those annoying home-appliances, or bothersome outdoor noises. Hearing loss in factory workers, and in some cases professional singers can be the direct result of (repetitive) exposure to high volumes. In the process of listening, the brain chooses either to inhibit or excite the transmission of sound through the nerve

pathways. When decibel ranges are beyond safe levels and/or the inhibition response continues long enough, it creates atrophy in the system. This occurs along the afferent nerve pathways, which are responsible for first processing incoming information.

Unconsciously, the lower brain is first to respond to stimuli as either beneficial or threatening to the body. This response is automatic. If the stimulus is taken as beneficial, afferent neurons are excited; if taken as threatening, the response is inhibited. When we react to a loud noise, it is not because of the thought we have: "oh my, that is a scary noise I had better move!" that we actually move. It is pure reflex and it happens instantaneously, even before the thought has time to arise. Next, auditory processing continues in the middle brain, which initiates an instinctual response conditioned by emotion and memory. At this stage of listening, the process becomes conscious. Efferent nerve pathways parallel the afferent nerve pathways that were responsible for in taking the frequencies. In short, relevant nerves are excited by the yet to be scientifically explained; "will to listen," as Tomatis himself called it. This excitement travels from the neocortex to outer hair cells containing a biological motor that gets excited and amplifies the cochleae. It is this cochlear amplification alone that allows sound processing. For only with cochlear amplification can we listen to and process frequencies. Thus, audibility of frequencies revealed in an audiogram will indicate areas of sound deprivation and missing frequencies, which have resulted from extreme noise pollution or psycho-physiological blocking.

The third law of Tomatis is especially relevant to sound healing work. The third law states: Sufficient auditory stimulation will provide a lasting improvement in the ability to listen, and consequently better reproduce sound.

We know little about hearing compared to our vision. We do know that there is both air listening and bone listening. Bone listening comes first. We first practice bone listening in the womb when we receive the frequency of our mother's voice resonated through the spinal vertebrae. Lower frequencies would rather be sensed or felt as vibrations in the womb, for although we have an adult size cochlea at birth, the ear completes innervation and integration of all developmental frequencies only at the stage of adolescence, which is when we hear significant drops in the pitch of both the male and female voice. How is that relevant to sound healing? For optimum health, we need to listen to a full range of frequencies, ideally as they exist in nature. When exposed to such frequencies that are high quality, unpredictable and variable our neural pathways get used and develop in the way intended. If we live without the stimulation from the full spectrum sounds (similar to our need for full spectrum light) the deficiency will lead to atrophy and ultimately dis-integration in the system.

One example from the experience of Dr. Tomatis illustrates this beautifully. All the monks in a monastery located in Southern France had fallen ill, so Dr. Tomatis was called in. At first, Dr. Tomatis could not find anything wrong with them. Upon further examination of the situation, it was reported that the one

thing that had changed in their daily routine was the practice of chanting. Someone had wrongly decided that the monks should stop chanting 2-3 hours in the morning, as they had done before. So there appeared to be a resulting sound deprivation that affected their very health. As you might imagine, health was restored together with the return of chanting practice.

From a practical point of view, we should understand the importance of vocal play in relation to health maintenance and encourage practice in therapeutic environments! Play, Play, Play! Sing, Sing, Sing! As sound healers we should also be tuned into our clients' ability to receive full spectrum sound, and to express themselves fully. To allow space for this unfolding we can hold gentle awareness of any disruption that comes up between self-listening and vocal expression. Finally, by consistently following our own practice of toning, singing or chanting, we heal ourselves. We then model this state of being self-healed, which may be heard through our own voice and revealed in what we hear.

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