

*Hello all,*

Welcome to *Alternativz* Volume 2, Issue 4, an occasional journal of complementary and alternative solutions for health, well-being, performance, and longevity. This issue, *The Talking Bridge*, explores conscious use of the tongue to quiet the mind, quieting the mind being a subject about which much has been written but still little seems to be known.

In fact, the tongue, which can be argued to be the central organ of speech, is the “knob” or “lever” that affords us conscious control over words, not just what we verbalize but also the way that words arise in the mind.

At a very young age we learn to use the tongue to talk, to use it to verbalize words that come to mind. In the beginning, this is not easy, and requires us to build up word and language skills from their most basic components, i.e., letters or symbols. But in time, we are able to articulate our thoughts in long strings of words, the tongue and other organs of speech automatically coordinating their movements to make desired sounds. Other organs include the diaphragm, the jaw muscles, lips, and glottis, all of which coordinate to facilitate speech including tone, volume, and subtle inflection. However, the tongue is the “talking bridge”, i.e. the muscle group that facilitates conscious influence over what otherwise appears to be a subconscious process – the arising of words in the mind.

In fact, the importance of the tongue goes much farther than words alone, where the excitatory state of the tongue appears to be a reflection of the overall state of the nervous system, and consequently of the body. This was first brought to my attention in the late 90s at Esalen Institute by the late Anna Wise of *The Awakened Mind* brainwave training method who pointed out in her work that a key determinant of the amplitude of  $\beta$  brainwaves, brainwaves in the 19-33 Hz range that tend to be associated with arousal, is the excitatory state of the tongue. When the tongue is “tense”, the amplitude of  $\beta$  brainwaves tends to be high, and when the tongue is relaxed,  $\beta$  amplitude diminishes. An important thing about  $\beta$  brainwaves is that they tend to be reflective of arousal and its consequence, excitation of low threshold muscle motor units throughout the body, i.e. when  $\beta$  amplitude is high, the whole body tends to be relatively tense.

This is not surprising, because the tongue is innervated by the hypoglossal nerve, which originates in the hypoglossal nucleus in the brainstem, tension in the tongue being a barometer of electrical activity in the brainstem. So the hypothesis is that by learning to relax the tongue we are learning to lower the electrical activity in the brainstem and in effect, the entire body. We can see this reflected in the amplitude of  $\beta$  brainwaves, and it can be observed myographically.

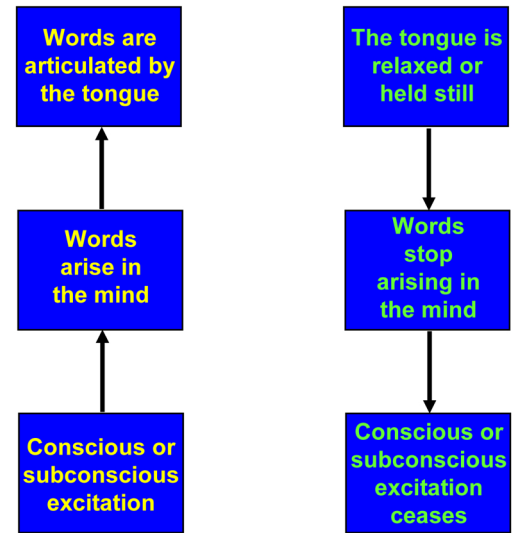


Figure 1: The forward and reverse action of the Talking Bridge.

Now, its not quite this simple and here's why... There is a prerequisite to relaxing the tongue, or any other part of the body for that matter, this being breathing. If we're not breathing relatively slowly and deeply, we cannot relax the tongue nor will we see much reduction in  $\beta$  brainwave activity. The thesis of Coherent Breathing as explained in [\*The New Science Of Breath\* \(2005\)](#) is that if we are breathing at the typical adult rate of 17-19 breaths per minute, the nervous system remains in a state of hyper-arousal, confusing our resting breathing rate with that of fight or flight. The way we convince our nervous system that "things are OK" and that there is no need to fight or flee is by breathing relatively slowly and deeply.

Exactly how breathing influences our autonomic state remains a medical mystery, one that deserves a great deal of research. Based on our findings of last year, we anticipate that it will eventually be determined that the brain anticipates the presence of the [\*Valsalva Wave\*](#), when the wave is absent the brain becomes hyperactive and the body becomes tense. When it is present, the brain calms down, the body calms down, *and we are able to relax the tongue* or any other body part. This dependency is one reason why physical flexibility requires breathing to be relatively slow and deep. It is the same mechanism by which breathing effects blood pressure, i.e. hypertension is vascular muscle tension. Reduce muscle tension in the arterial tree, the volume of the tree increases and blood pressure is reduced, again this is the hypothesis.

So how do we employ the tongue, *the talking bridge*, to quiet the mind? First, we establish the necessary physiological conditions by breathing "coherently" for 8-12 minutes. During this period, we can feel a "shift". Once we feel the shift, we pay attention to the tongue. Try and sense any tension. Because the tongue resides withdrawn behind the teeth, there tends to be an ever-present tension that we have learned to live with. Hold the tongue with a handkerchief and gently stretch it out. Allow the jaw to close such that the teeth rest gently on the upper and lower surfaces of the tongue. Holding this gently, inhale then exhale. As we exhale, consciously relax the tongue. What we're talking about is sensing the "excitation" of the tongue and quieting that excitation. The source of the excitation is electrical activity in the brainstem.

As we do this, pay attention to the arisal of words. When the tongue is relaxed do words continue to arise in the mind? Once we've practiced this, we then pay attention to the mind itself, is it quiet? Try this meditation: a) sit connected between Heaven and Earth, b) breathe coherently, c) relax the tongue. Any time a thought begins to arise, relax it away. Eventually, we can feel the energy of a thought before it arises, and we can relax that energy away.

Note: See the related article, [\*Matrika - The Source Of Internal Dialog\*](#), in the August 2010 issue.

Thank you for your interest and consideration,

Stephen Elliott, President, COHERENCE

[Subscribe to Alternativz - Its Free!](#)

COHERENCE - THE NEW SCIENCE OF BREATH®