



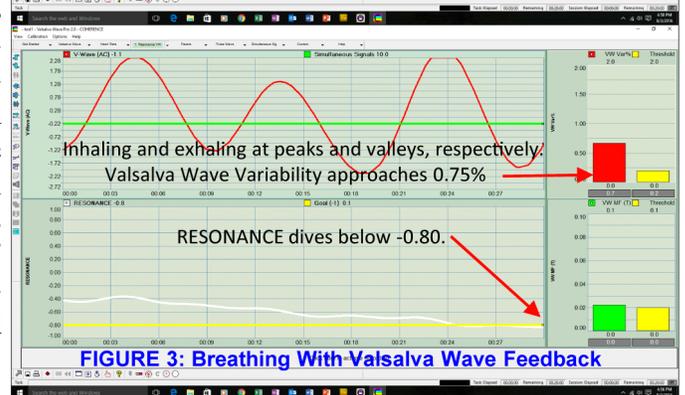
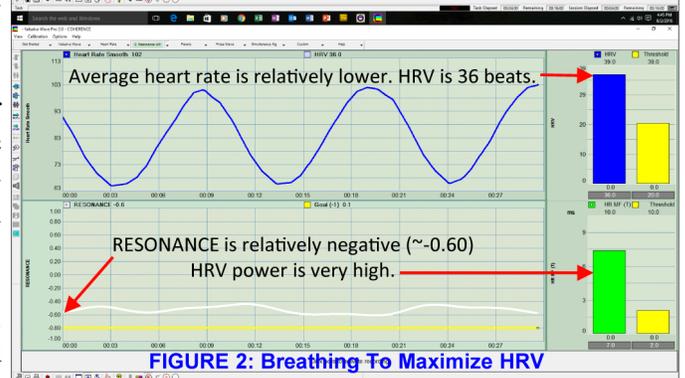
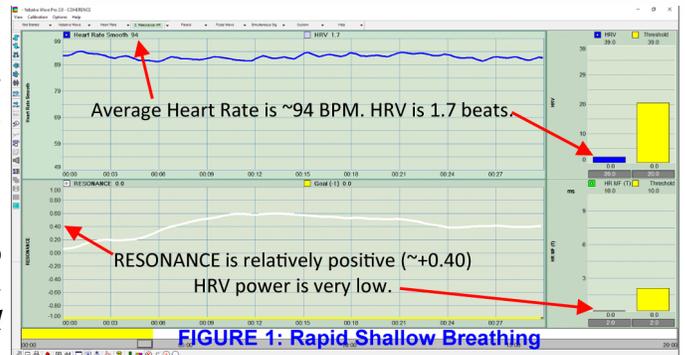
Welcome to,

Coherent Breathing, Resonance, & The Virtuous Circle, Volume 1, Issue 12 of *Swan & Stone*, an occasional journal of complementary solutions for health, well-being, performance, and longevity.

The circle is a fascinating feature of reality as we know it. As I've offered in recent issues, the circle has much to do with Coherent Breathing, with *circulation*, with oscillation, and with *resonance*, oscillation depending on a *closed loop* or *circle* by which positive feedback of output or outcome is returned to the input, thereby sustaining vibration.

All matter vibrates and all systems composed of matter vibrate, where the components of a given system combine mechanically to determine the vibratory nature of the system at large. The living body is an example of a complex system that exhibits vibration – vibration is “life”.

If we look inside the body the diaphragm is vibrating, lungs are vibrating, the nervous system is vibrating, blood is vibrating, fluids are vibrating, cells are vibrating, bones are vibrating, energy is vibrating, and with it the electrical field around the body is vibrating. These vibrations together are what we take as “signs of life”. If the diaphragm stops “vibrating” life ends; if the heart stops “vibrating” life ends, if blood and fluid stop vibrating life ends; if the brain stops vibrating life ends. We refer to these phenomena as “breathing”, “the heartbeat”, “the pulse”, and “brainwaves” – physically, all are *vibrations* – intricately interrelated vibrations. As long as they exist, the body remains alive and integrated. When they cease, the body dies and disintegrates.



So here is the question: *Does the quality of vibration matter – to health, well-being, performance, longevity?* Introspective ancients researched this question and discovered its answer thousands of years ago. The answer was and remains a resounding, “Yes!”. There are practices that when performed *deliberately* – support life, resulting in *A Virtuous Circle* that bolsters physical health, mental well-being, performance, and longevity in an upward spiral, making us better day by day – our physiology becomes more substantial – our mental and spiritual capacity become greater – our understanding becomes broader and deeper – and our broader deeper understanding informs and directs our practice, thereby completing *The Virtuous Circle* that supports integration and “life”. By and large, they accomplish this by generating and conserving energy, and by facilitating and supporting vibratory capacity – *vibrating to thrive vs. just survive*.

The Virtuous Circle begins with the mind which must develop very deliberate intent to “govern the house”. Paraphrasing the titles of the initial chapters of *The Secret Of The Golden Flower*, and as explained in some detail in *Wuji Qi Gong & The Secret Of Immortality*, the pillars of the house are: 1) turning one’s radiating light of consciousness around, such that it shines on one’s self, 2) *tuning* the posture, 3) *tuning* the breathing, and 4) keeping to the center. Today we have the aid of modern technology that helps apprehend, understand, and optimize the process. Here I refer to *Valsalva Wave Pro with Personal Resonance Protocol*, which allows us to aspire to the pinnacle of perfection as it relates to “tuning” – of the posture, of breathing, of state, and ultimately of mind which governs it all. Here, biofeedback “closes the loop” with a precision that we cannot otherwise know.



Figures 1, 2, and 3 are *Valsalva Wave Pro* takes that I have recorded of myself this week for this article. **Figure 1** demonstrates breathing at the typical adult rate of 17-19 breaths per minute. Average heart rate is running ~94 beats per minute. Heart Rate Variability (the degree of variation of the heart rate) is averaging less than 2 beats. HRV is measured by the blue bar graph in the upper right panel. The “Resonance Curve” is relatively positive, indicating that the breathing induced Valsalva Wave and heart rate are tending to be in-phase, where “resonance” is indicated by their approximating 180 degrees out-of-phase. (As the Resonance Curve is the correlation coefficient of the breathing induced Valsalva Wave with the Heart Rate that it elicits, a neutral phase relationship between Valsalva Wave and Heart Rate would ride the green centerline, i.e. averaging zero.) The breathing of Figure 1 is an extremely unhealthy pattern that was uncomfortable for me to produce for even 30 seconds. It effectively suppresses vibration, yet it is the uninformed breathing pattern of the vast majority of adults and is a causative factor relative to stress, anxiety, and myriad other health conditions and consequences including *essential hypertension, hypertension with no disease related cause*, the #1 mortality risk worldwide.

Figure 2 is me breathing to maximize Heart Rate Variability (HRV). Here I’m sitting erect, breathing deeply, inhaling at heart rate valleys and exhaling at heart rate peaks, with deliberate relaxation of “bridges” during exhalation. My HRV is ~36 beats. The Resonance Curve is ~-0.60, indicating that my 2nd order Valsalva Wave induced heart rate (HRV cycle) is more out-of-phase with my first order breathing induced Valsalva Wave than it is in-phase, 3/5s of the way to be more quantitative. It is approaching resonance but is 2/5s of the way from being there, evidence that breathing to maximize HRV alone does not yield resonance proper. Maximal HRV and “resonance” are not the same state. In my experience, where breathing to maximize resonance can yield maximal HRV, breathing to maximize HRV does not yield maximal resonance. Maximizing resonance requires that we find the precise “middle way”, involving breathing, posture, and state, including thought.

Figure 3 is me breathing with Valsalva Wave feedback vs. heart rate feedback, inhaling at peaks and exhaling at valleys, the opposite of how one breathes with heart rate feedback. As the Valsalva Wave is the first order circulatory biometric of diaphragm movement, by using it I am able to be more accurate with my breathing, thereby realizing “resonance” more directly and rapidly. The wave is also almost purely sinusoidal. Once again I am observing, synchronizing my breathing with the Valsalva Wave and deliberately relaxing bridges during exhalation. Behind the scene, my heart rate is synchronizing more precisely with my Valsalva Wave because I am paying attention to the same rising and falling of blood flow and pressure as is the autonomic nervous system which responds by varying both heart rate and stroke volume. In other words, my perspective and that of the autonomic nervous system are roughly the same in time. Whereas, if I pay attention to the HRV cycle and synchronize my breathing with it, I am already behind. This being said, breathing with the HRV cycle to determine Personal Resonant frequency can work and is the approach that I explain in *Personal Resonance Protocol*.

The quality of vibration does matter and the quality we are looking for is that of *resonance*, where the resonance I refer to is *that of the entire body*, breathing, lungs, blood, fluids, brain, organs, bones, and tissues, all of which come into play via “sympathetic vibration”. The reason for this is that the body is naturally tuned to its own Personal Resonant frequency, what we referred to in *The New Science Of Breath* as one’s *natural quiescent rhythm*, the rhythm of real dynamic balance and homeostasis. When we facilitate this vibration via mind, breathing, and state management, the entire body joins in. As we practice this with critical thinking, i.e. purposefully, we set in motion *A Virtuous Circle*, the process by which our action improves our overall condition, and improvement in our overall condition informs our practice, a positive feedback loop that facilitates forward progress. Per *The Secret Of The Golden Flower*, isn’t discovering this a very goal of the yogic pursuit?

Our body/mind is much like a musical instrument, but it is up to us to learn how to play it. I determined my own personal resonant frequency last fall and have been practicing with it since. There was an immediate powerful effect followed by a gradual but steady improvement in mental function, nutritional impact, restfulness of sleep, and the healing of old wounds. Regarding my meditative practices, there has been a dramatic amplification of experience.

Stephen Elliott, President, COHERENCE

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