Swan & Stone

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*Hello all,*

*Figures in this issue remain the same as Issue 12*

My last article was on the topic of the *Virtuous Circle* and how Coherent Breathing & resonance aid in turning the circle into an upward spiral of embetterment. That article prompted a number of readers to inquire – that if this is true, how and why is it so? In a nutshell, my reply has been: "Circulatory optimality and all that accrues from it." ***Personal resonance is yoga for the 21st century.***

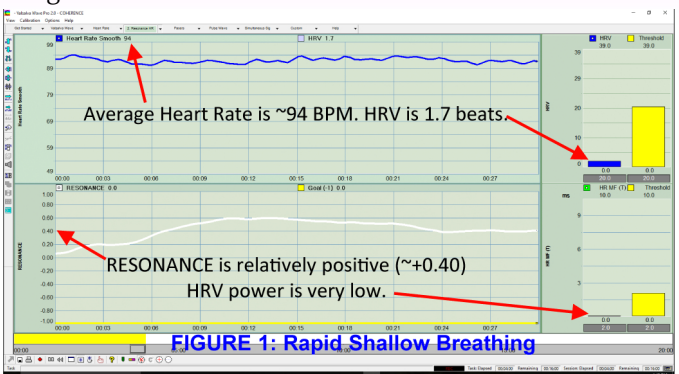


FIGURE 1: Rapid Shallow Breathing

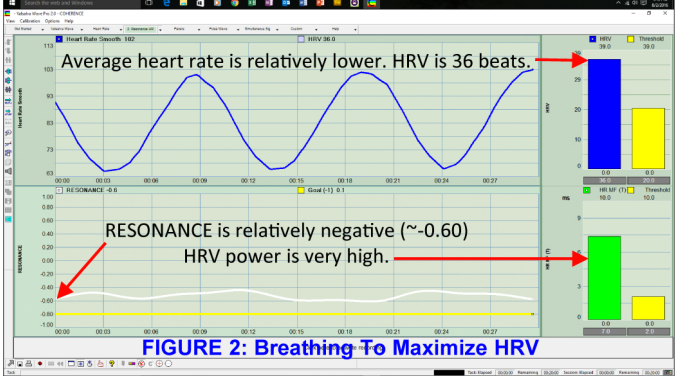


FIGURE 2: Breathing To Maximize HRV

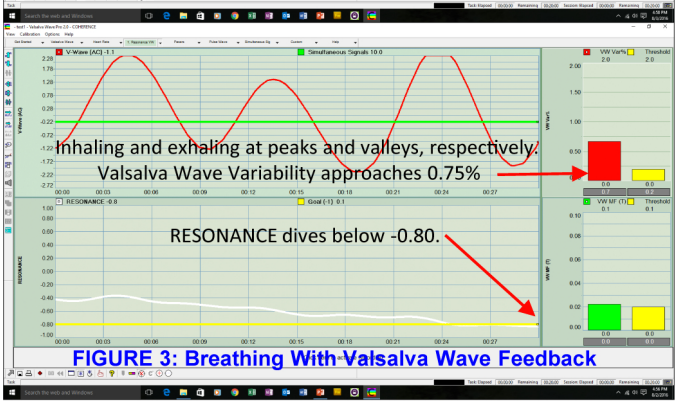


FIGURE 3: Breathing With Valsalva Wave Feedback

If you aspire to be the best you can be, at whatever you do, then this is for you. Why, because when combined strategically with hydration and nutrition, and especially in combination with deliberate practice, huge things happen. Here I am referring to automatic learning, super-intuition, seeing the forest (with the trees) with utmost clarity (in Taoist parlance "understanding reality"), psychic communication, the healing of old wounds, stopping the aging process, and the cultivation of Kundalini Shakti. If you know me as a Dragon, then you know that here I mean what I say.

Some perspective: *The New Science Of Breath* was published in 2005. At the time we knew breathing was a key determinant of autonomic nervous system state and ultimately of balance, but we weren't entirely sure why or how. We knew this via simultaneous multimodal instrumentation of biometrics where we could see multiple measures reflective of autonomic state begin shifting quickly once Coherent Breathing began, here I mean within seconds, and continuing to change in a desirable direction over minutes, and 10s of minutes. Colleague and co-author Dee Edmonson led this clinical discovery, and other colleagues of hers and eventually of mine, also confirmed it. Here was the fact: *Guide a person to breathe (move their diaphragm) at a relatively slow even pace, a pace approximating their resonant frequency, and biomeasures begin shifting immediately.* Dee was in a perfect position to witness this because she was, at that time, a rare practitioner of simultaneous multi-modal biofeedback. She employed it with all of her clients and still does. Around 2009, Dr. Elsa Bachr related to me her observation that when using *RESPIRE-1, the first breath taken caused an increase in alpha wave amplitude as measured with EEG*. The period of one coherent breath per RESPIRE-1 is ~12 seconds, so within this brief initial period, where Coherent Breathing was just starting, there was a notable change in alpha wave amplitude. How could this happen – an immediate change in brainwaves with a single inhalation and exhalation?

We also knew that what we were referring to in *The New Science Of Breath* as "the state of autonomic balance" was a special state. This because we were personally accessing it regularly, living in it, and because we could see the immediate affect it had on others. Here we can make no claims – we can only offer education: *Move the diaphragm and improve biometrics, including HRV, EEG, muscle tension, skin conductivity, hand temperature, and blood pressure.* If you are familiar with the history of Coherent Breathing, of course the pursuit of the physiological *root cause* of these changes led to the modern day "rediscovery" of the previously documented but little recognized phenomenon of "the respiratory arterial pressure wave", a.k.a., the Valsalva Wave, the wholistic phenomenon that really turns out to be a blood wave that rises in the venous tree during inhalation and rises in the arterial tree during exhalation – this being powered by the muscular action of the diaphragm,



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the nominal volume of 5 liters of blood in the average adult body making its way around the "circle" every minute, the nominal rate that is generally documented in medical literature when the body is in a normal resting state, as I am in this chair writing this issue. Of course, this is the rate of blood flow of the average adult, which we know breathes at the pathological rate of 17-19 breaths per minute, effectively negating any contribution to blood flow and pressure generated by the diaphragm and thoracic pump consisting of chest, lungs, and diaphragm, in combination with the heart. I posit that resonant breathing roughly doubles this rate, i.e. the blood in the body of the average resonant breather circulating 2 times per minute vs. 1 time per minute -> 10L/min vs. 5 L/min, though still in a resting state.

More importantly, I assert that the wave action generated by resonant breathing facilitates fluid action deep into the parenchyma including the brain, organs, skin, and bones, where action of the 37L of fluid in the body relies almost completely on variations in blood flow and pressure, the reason why exercise (which necessitates breathing) is so healthful – it facilitates circulation of the remaining 37L of fluid that exist in the average adult body. Here I refer to extra-cellular fluid, cellular fluid, synovial fluid, cerebrospinal fluid, lymph, and every other specialized form of fluid produced by the body. ***Breathing is a circulatory function!*** By this I mean that the circulation of blood (and fluid) does not function adequately, much less optimally, unless the diaphragm moves, especially when we are erect.

Circulation of fluid is vitally important to cellular health. In a series of articles in the 2013 timeframe which you can find on ***Swan & Stone***, I related the results of our "search for the wave in the brain", where if we could determine that the brain experienced the respiratory wave, the Valsalva Wave, then it would complete the circle of understanding as to how and why breathing coherently facilitates immediate changes in biometrics that are under autonomic governance – *the brain experiences the wave and facilitates autonomic changes in accordance*. Why? Because the subconscious body/mind knows of the wave, of the state of resonance, and of circulatory homeostasis, a state that it prefers.

The question we must ask ourselves is this: Are average adults, from which most of our biometric norms have been derived, representative of health and human potential (or is there more)? To this I reply, that the majority of adults breathe at a frequency and depth which is pathological, resulting in circulatory malfunction which is also pathological, manifesting in disease, both physical and mental. If one corrects this, better yet, if one perfects their breathing and circulation, and best yet, if one perfects their breathing and adds to it strategic hydration and nutrition, then what is possible? The reversal of disease? The reversal of aging? The realization of human potential?

Returning to the *Virtuous Circle*, it seems that we have a choice to make. We can pursue "virtue", a self-sustaining upward spiral that supports embetterment – not unlike an Olympic endeavor, it requires our conscious deliberate participation, where we find ways around obstacles and impediments to our goals involving health, well-being, performance, and longevity. Here I refer to the stern intent to "govern the house". There are 2 other paths: a) do nothing – an illusory option, and b) let the house descend into chaos and destruction, i.e. let *The Vicious Circle* of senescence reign, wherein the body decays and along with it the mind. Because entropy exists, the "do nothing option" really isn't an option. The reality is that if we don't work hard to build and reinforce the foundation of life, the forces of entropy will take it away, little by little, including brain function.

Dee's service mark is: "The journey begins with breath." At birth, continued life of the physical body depends on taking that first breath. At life's end, we take our final breath. Is it a stretch to accept that the quality of our breathing between the first and last breath we take is a huge determinant of our health? Not if we accept that breathing is a vitally important circulatory function, and here I don't mean gas exchange, I mean that moving the diaphragm compels the blood and fluids to circulate. As it does, gas exchange occurs, cells throughout the body are cleansed and nourished. *Resonant Breathing is the tool we have to optimize and perfect our circulation and all that accrues from it – including health, well-being, performance, and longevity*. Some have told me that this wholistic protocol involving deliberate resonant circulation, combined with deliberate hydration, and nutrition, is "sophisticated".

I agree, it is a big idea – and it works.

Stephen Elliott, President, COHERENCE

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