

The expiratory pause and the mystery of the breath

By Michael Krugman

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“The most beautiful experience we can have is the mysterious. It is the fundamental emotion which stands at the cradle of true art and true science. Whosoever does not know it and can no longer wonder, no longer marvel, is as good as dead, and his eyes are dimmed.”—Albert Einstein

We breathe in accordance with our ever-changing metabolic needs. Our need for breath, for oxygen, changes in response to our activity level, our emotions, our posture, our environment, and other factors. And the breath adapts itself instantly and with uncanny accuracy to these changes—even over the course of a single breath.

For example, begin an inhalation and, about halfway through, hold one nostril shut. In response, you will reflexively do one of two things—but not both—to make up for the resulting deficit of breath: either prolong the phase of inspiration, or inhale with greater force. No thinking is required; the alteration of the action is involuntary, unconscious.

Or, try this: intentionally prolong your expiration. This induces mild, momentary hypoxia (oxygen deprivation). As a result the subsequent inspiration is spontaneously deeper than the one before it. Again, the change occurs involuntary. No thought or conscious volition is required.

Reflexes like these ensure that we automatically receive exactly the right amount of breath for each moment of our lives. But ask yourself, exactly how much breath do you need for any given moment? The answer is not available to introspection; it is revealed only by the act of drawing a breath. The breath has its own wisdom, and that wisdom is *of the body*, not the mind. The body simply breathes, and it does so with exquisite accuracy, 24 hours a day for our entire lives. In the course of a lifetime, you will breathe something like 600 million times. All of that, and more, makes the breath one of life's great mysteries.

Another essential mechanism that the body uses to adjust oxygen consumption is the *expiratory pause*. This is a period at end of exhalation during which respiratory movement spontaneously ceases for a time. It is an effortless, involuntary, reflexive mechanism necessary for health, vitality, and life itself.

The length of the expiratory pause is highly variable. Whenever there is a surplus of oxygen in the body at the end of an exhalation, as often occurs during periods of physical stillness or deep relaxation, the expiratory pause becomes longer to allow surplus oxygen to be expended. A very long expiratory pause can last as long as one complete breath cycle, or even longer, as if we had skipped a breath entirely. When our oxygen requirement is greater, for example during vigorous activity, the expiratory pause may become very short, even imperceptible, to allow the instantaneous inflow of fresh oxygen.

Does the length of the expiratory pause directly affect our emotional state?

Almost certainly. In his excellent study of the neurological underpinnings of

meditation, *Zen and the Brain*, James H. Austin, M.D., writes eloquently of the expiratory pause. "Which of our basic human emotions shows an increase during this pause?" he asks. "Only tenderness. In contrast, fear lengthens the phase of inspiration and increases the amplitude of breathing."

The expiratory pause is an indispensable feature of the breath mechanism. As such, it ought to be an equally indispensable feature of the knowledge base of every somatic educator or therapist, indeed of anyone for whom the breath is tool for self-healing or personal growth. The culture at large, and many of our somatic disciplines, have taught us to valorize "deep, diaphragmatic breathing," and to remain vigilant against the habit of unnecessarily holding or stopping the breath, whether it is a result of miscoordination, anxiety, illness, or other factors. With this fixation on ever fuller, ever deeper breath, the delicate, innate, reflexive balance of the breath, so exquisitely sensitive to our moment to moment metabolic needs, is supplanted by the crude, willful impulse to take all the breath we can get at any given moment.

Within this single-minded "deep breathing" paradigm, the natural and necessary expiratory pause, whose first function is to *reduce* the volume of respiration and which actually causes the movements of the breath to cease at unpredictable intervals, tends to be poorly understood. Those of us who fail to appreciate the mysterious ways of the expiratory pause may also fail to differentiate it from parasitic breath-holding or other inappropriate cessations of the breath rhythm. As a result, we may unintentionally ascribe pathology to something that is innate, wholesome, and entirely normal, necessary, and good. In that case, our clients receive the unintended take-away message that "something is wrong" with their breath or, worse, that voluntary control and

constant vigilance are required to maintain "correct" or "healthy" breathing. Nothing could be further from the truth.

Perhaps the greatest lesson of the expiratory pause is that the breath is an exquisitely delicate mechanism whose workings, though immediately present to the senses, remain largely unknowable, and therefore mysterious, wondrous, and ever worthy of our rapt attention.

In that spirit, let us relinquish manipulation and control of the breath. Instead, let us honor it as a vital part of ourselves that reflects a deep, internal wisdom that is of our bodies, yet beyond our minds. Finally, let us extend to ourselves, to our own breath, and our own living, breathing bodies that same *tenderness* that is kindled within us at the end of each exhalation, before the breath begins anew.