

The Inspiration of Breath

Jean McClelland

“All life begins and ends with the exhale,” intones the breathing expert Carl Stough at the beginning of his film “Breathing: The Source of Life,” a riveting documentary on his life and discoveries in the art and science of breathing. It is stunning to contemplate that statement, and it is revelatory to begin to recognize, and experience, the power of exhalation. This is the gift that Carl Stough gave the world. And for those of us who were fortunate enough to work with him while he was alive, Carl gave us tools to guide us through a lifetime of breathing discoveries.

A TRUE BREATHING PIONEER

Carl Stough was an extraordinary person as well as a superb musician blessed with a remarkable ear. While a conducting student at Westminster Choir College in New Jersey in the 1940’s, he became fascinated with breathing. As a singer he knew that voice was ideally produced on a constant flow of air—what singers call “supporting the voice on the diaphragm.” He pondered



Carl Stough

how that support could come about and, furthermore, how he could attain it in himself and his students. Immediately upon graduation from Westminster, Stough was hired to conduct a chorus in Rocky Mountain, North Carolina.

Within a very short time the choir achieved recognition, performing with the North Carolina Symphony and on radio. Listeners and critics alike commented on the beauty of tone and expressiveness of the singers and heralded Stough for his outstanding conducting. Soon the choir was known as the Carl Stough Singers and, when asked how he brought about such an excellent blending of voices, Stough said that his technique was to give a weekly voice lesson to each of his singers! It was during his time in North Carolina that

he began making important discoveries in voice and breathing.

In 1953, Stough returned to New York City hoping to organize a professional group of singers and to continue his own vocal studies. Word of Stough’s success in North Carolina preceded him and soon he was invited to resurrect a dormant choir school in Bayridge, Brooklyn. Stough repeated the success he had in North Carolina and by 1958, the Good Shepherd Choir School was recognized for its excellence and became firmly established in the musical life of New York City. It was around this time that a veterans’ hospital in East Orange, New Jersey, contacted the Musicians Emergency Fund, which sponsored music therapy for veterans, to find someone to work with their respiratory patients. The Fund recommended Stough. Stough’s success with singers was of such high repute that it was assumed that he must know a great deal about breathing, and when he arrived in East Orange he was asked to “have a look” at the hospital’s bed ridden emphysema patients. Emphysema is an extremely debilitating and progressive lung disease which causes shortness of breath and difficulty breathing.

At that time Stough knew very little about emphysema, but as he began observing the patients he was struck by the unnaturally high position of their chests as they labored to breathe. He knew

from his work in singing that one's rib cage should sit low and relaxed in the chest, otherwise breath cannot flow easily and the voice will be restricted.

Instinctively Stough placed his hands on his patient's chest to begin to release its tension. He also noticed that the patients were engaged in "paradoxical breathing." That is, the muscles of respiration were doing just the opposite of what they should be doing. The diaphragm, instead of rising in exhalation, was pushed down, and the ribs, which should expand laterally in inhalation, were pulled in. Carl knew if he could somehow get the diaphragm to relearn how to work in the right way, he might be able to bring about better health and breathing in his patients.

THE MIRACLE OF BREATHING

In order to understand Carl Stough's discoveries, and our own work with breathing, we first have to know how we are designed to breathe and what is happening as we breathe.

Our diaphragm is our muscle organ of breathing. It is incredibly strong. The only thing like it in the human body is the esophagus, which is not so surprising because in the developing fetus the diaphragm starts out as the esophagus. As the fetus grows the diaphragm differentiates from the esophagus and slips down the spine, leaving behind it a trail of two phrenic nerves. The phrenic nerves connect to the respiratory center in the brain stem which in turn responds to our blood gases. Our blood gases are carbon dioxide and oxygen. As you may know, we exhale carbon dioxide and we inhale oxygen. Carbon dioxide is considered a "waste" gas and a build up of it in the body tenses nerves and muscles. On the other hand, oxygen relaxes nerves and muscles. In healthy breathing, the diaphragm rises in the chest cavity in exhalation, pressing against the lungs to rid them of carbon dioxide. Then, when our body needs oxygen, an impulse is sent from the brain stem, down the phrenic nerves to the top of the diaphragm, telling it to contract. In this way oxygen from the atmosphere is drawn into our lungs.

Inhalation is a reflex under the control of the brain stem. We don't need to "try" to inhale; we are

breathed. Stough observed that this natural way of breathing was completely impossible in the emphysema patients. Their weakened diaphragms forced them to use their upper chest muscles and their shoulders to breathe, causing them to grab and gasp for air in a struggle to stay alive. The

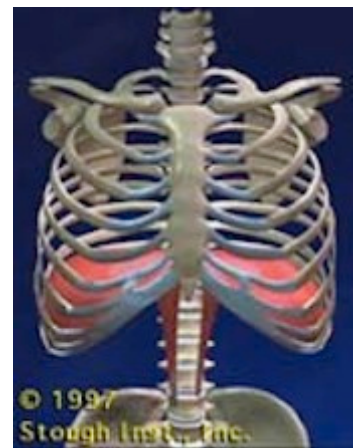


The diaphragm in maximum exhalation

exhaustion and physical weakness that resulted from this way of breathing was profound. Carl's intuition and experience led him to realize that the problem in the emphysema patients did not lie in their inability to inhale but rather in their inability to exhale. The pattern of breathing that Stough

observed in his patients (grabbing for air with the upper chest and shoulders) had caused their diaphragms to weaken profoundly. When a diaphragm weakens it cannot rise in the chest cavity during exhalation and carbon dioxide builds up in the lungs. In this situation, "bad" air (carbon dioxide) stays in the lungs, and "good" air (oxygen from the atmosphere) can't get in. Our lungs have to empty before they can be filled.

This struggle for air resulted in a sense of panic in the emphysema patients and contributed to their extreme exhaustion and muscle fatigue, so much so that they could hardly move from their beds. Stough felt that the only hope for the emphysema patients lay in trying to redevelop the strength of the diaphragm so that it could begin to function in a healthy way. The pulmonologists associated with the hospital scoffed at Carl's claim that he could effect a rise of the diaphragm and a release in



The diaphragm in inhalation

the chest, but Carl was persuasive and since at that time there were very few treatments for emphysema, he was given grudging support to continue his work. Within six months, Carl had spectacular success. His patients were up and about and some were even able to leave the hospital. Moreover, Stough's work changed the way medical science viewed the diaphragm. Before Stough's work, pulmonary specialists felt that once the diaphragm became weakened it could not be redeveloped or directly influenced. Carl proved otherwise and showed that it was the exhalation which influenced inhalation. Inhalation can take care of itself, but it's the strength of the exhalation that is the more important element in breathing. This led Stough in the years that followed to say that most people worked on the wrong end of the breathing spectrum, focusing more on inhalation than exhalation, barely recognizing that they were "holding their breath" and not exhaling.

THERE IS A RIGHT AND A WRONG WAY TO BREATHE

When we contemplate the work of Carl Stough we are struck with the implications for our own life and breathing. I have found patterns of breathing similar to the emphysema patients in students with asthma, spasmodic dysphonia, back pain, tendinitis, anxiety, and malaise as well as in singers and actors. Carl Stough found that even the Olympic athletes of the US track team that he worked with in 1968 had distressed patterns of breathing. He found that the athletes were amazingly sensitive and disciplined and made improvement very quickly, but when they initially worked with him the stress associated with their level of competition had produced some of the same diaphragmatic weakness as his patients in respiratory failure. Grabbing for air with the upper chest as they ran caused enormous tension in their muscles and their recovery post race was prolonged. What these athletes came to realize was that if they could focus on their exhalation, their inhalation would take care of itself. They "recovered" much more quickly and began to best their own track records. In the Mexico City Olympics in 1968, a

number of runners on the track team that Stough worked with won gold medals and set Olympic and world records.

HOW WE CAN HELP OURSELVES

One of the most powerful ways we can work with our breathing is to observe it. This is much harder than we might imagine because breathing lives in an area between consciousness and unconsciousness and we need to learn how to connect to it. When you begin to sense how your body breathes without your interfering in its reflexive process, you will automatically begin to slow your rate of respiration. If your rate of respiration slows down you will automatically be exhaling more carbon dioxide. If you exhale more carbon dioxide you will, by design of the body, be inhaling more oxygen.

I would like you to experiment with observing your breathing. Many of you may have found that when you tried to observe your breathing in a meditation or Yoga class that it was very difficult. But how were you actually observing your breathing? Did you go inside yourself to try to feel for it or to try to see it? That can sometimes cause tension. I'd like to suggest a different way which you may find more creative and freeing. It involves using your hands to sense how your body breathes you. You may work seated or you may lie down in a semi supine position with your knees bent and the soles of your feet on the floor. Rest your hands on the sides of your ribs if that is comfortable, or if you like, you can place one hand on your upper chest and one hand on your abdomen. Feel free to move your hands around your body as you work. This is just an exploration and you should feel free to experiment. Make sure your hands are as tension free as possible. That will make them more able to sense what is going on underneath them. It's helpful to keep your eyes open when doing this exploration.

Next, notice with your hands the rise and fall of breath in your body. Really let your hands do the work of noticing. Some people find it very difficult to stay present in this way, but that, in itself, shifts our breathing and deepens it. Don't try to do

anything to change you own breathing. Just notice it: an expansion in inhalation and a release in exhalation. It's remarkable to work in this way. It is an "awareness" meditation that you can call upon any time. When we use our hands rather than our "heads" to sense our breathing, we begin to lay the groundwork for deepening and strengthening our breathing. This is the essential first step that is the basis for all the work you will do with breathing.

THE INSPIRATION OF BREATH

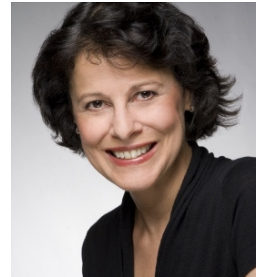
There is enormous power in working with breathing. Just now, when you used your hands to notice your body's ability to breathe itself, I hope you were struck by the great gift of life that was flowing under your hands. It is a profound realization. Working with breath can be life changing: physically, mentally, and emotionally. When we first connect to and experience the upward flow of breath which is our exhalation, we may feel great joy. And we may also feel great joy and freedom when we experience our backs opening and widening in a true diaphragmatic inhalation. We are truly "opening up" and it is incredible.

Carl Stough passed away in 2000 but he left us with an extraordinary legacy. He often said that the tools he gave us to work with in breathing were all we needed for a lifetime of discovery. I know this to be true. Every day that I work with myself—and my students—in breathing I get insights into where I can go further with my work. Working with breath is not only my creative nourishment, but it has helped me to open to greater emotional depth and truth as a singer. One of my students put it beautifully. After experiencing how free and spontaneous his voice felt when it was supported by breath, he said: "I'm not the same person I was a moment ago." The freedom of his voice was a result of a perfectly timed coordination of the respiratory muscles. His voice felt effortless and he felt that he had entered into a world of possibility that would take him beyond working with his voice. That is truly the inspiration of breath.

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ABOUT JEAN McCLELLAND

Jean McClelland is a senior teacher of the Alexander Technique, certified by the American Society for the Alexander Technique (AmSAT) and the American Center for the Alexander Technique (ACAT). Jean received her B.A. from Vassar College and did graduate study at Boston University in opera and vocal performance. She studied extensively at the Carl Stough Institute for Breathing Coordination and is one of fewer than a dozen people personally selected by Stough to teach his work. As a performer, Jean appeared in the Broadway production of *Camelot* and at Paper Mill Playhouse, Bardavon Opera House, Bergen Performing Arts Center and the Reagle Music Theater of Greater Boston. She originated the role of Jane/Aeola in Wallace and Allen Shawn's *The Music Teacher* and has played leading roles in *The Music Man*, *Guys and Dolls*, *My Fair Lady*, *Show Boat*, *The Marriage of Figaro*, *A Little Night Music*, *The Pirates of Penzance*, *Silk Stockings*, *The Boy Friend*, and *The Gondoliers*.



Jean is on the faculty of the MFA Acting program at Columbia University. She has been a member of the faculty of the New York Open Center since 1986 and a guest lecturer at William Paterson University since 1991. She has given workshops at drama and music schools, universities, and holistic learning centers throughout the country including New York University, Vassar College, Rutgers University, American Society for the Alexander Technique (AmSAT), American Center for the Alexander Technique (ACAT), Stevens Institute, Rowe Conference Center, Cambridge Center for Adult Education, the Community Music Center of Boston, and the Association of Voice Pathologists. Jean is a member of Actors' Equity Association.

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