

Leroux, Charles, "Beautiful Music is a Breeze for the Maestro of Breathing", CHICAGO TRIBUNE, June 22, 1982, Reprinted GETZEN GAZETTE, Sept 1982

COMPETE following phrases:

As easy as ...

Falling off a log.

Right. As light as ...

A feather.

Right again. As natural as ...

Breathing.

Not so fast there.

In the Fine Arts Building, behind the sort of door that one expects to open into the office of a '30s or '40s private eye, in a tiny room amid a jumble of strange-looking machines made of tubing and funnels and gauges, Arnold Jacobs, the tuba player of the Chicago Symphony Orchestra, was teaching breathing.

"STAND front of that full-length mirror," Jacobs told the student, a young trombone player from Northwestern University. "Inhale. No, no, bring more air into your chest, This time think of Dolly Parton."

The student laughed and drew his rib cage full.

"That's more like it," Jacobs said. It is unlikely that anyone knows more about the efficient use of breath in music making than Jacobs does. Musicians who study breathing with him represent all levels of accomplishment, beginner to symphony star, and come from all over the world - a clarinet player from an orchestra in Israel, a tuba player from Sweden, a German trumpet player.

They come with a variety of problems - a tongue that rides too high, a slouched stance that constricts the lungs, a French horn held so tightly the musician's ribs couldn't move. Each student pays about \$50 for an hour's lesson in the getting and spending of wind, the fuel of their craft.

"HOLD THIS over your mouth," Jacobs said to the trombone player, handing him a funnel connected to a tube connected to a measuring apparatus."

"Inhale as though you were going to swim two lengths of a pool underwater, and blow out all your air into the tube. When you think you're empty, squeeze out a few more drops."

He watched the pen marks creep up the graph.

"Five liters vital capacity. At 20 years old, and with your size and body type five liters is slightly above normal."

If that student is likened to a new car with a big gas tank, Jacobs is a far older model with a smaller tank and a few dents in the fuel line at that. He is 67, old for someone who must expel more air faster than any other member of the orchestra as he pushes music through 35 feet of coiled tubing.

IN A WORK involving low, loud playing, the Wagner Ring operas, for example, Jacobs will be moving up to 140 liters of air a minute, while an oboe player, at the other end, of the flow scale, might be moving 7 liters. In such circumstances Jacobs will rebreathe air back through the tuba to avoid carbon dioxide deprivation (hyperventilation) and its resulting dizziness.

At about ages 18 to 21, the time of maximum vital capacity, Jacobs' "tank" would have held about 4-3/4 liters. Now, it holds 3. In addition to the restrictions all musicians his age confront, Jacobs has asthma and Chronic Obstructive Pulmonary Disease (COPD, "that's what they call it when they don't know what it is.")

For about 25 years the condition has been severe enough to require medication. That he remains an internationally respected performer is testimony to Jacobs' ability to do what many aging athletes also have done, supplement temporary physical skills with growing knowledge, stave off time with learning.

"As a child in California, I was a bugler, a good enough one to win, on one occasion, a silver bugle. My favorite instrument, however, was a trombone that I bought for \$10. I loved that horn.

"THE FAMILY went on a trip to Texas in a 1927 Hudson touring car, with the trombone strapped to the running board. Somewhere along the way the trombone was lost. In junior high school in Santa Monica, they had a tuba but no one to play it. That's how I came to the instrument.

"My mother was a professional pianist. My father studied medicine, although he never practiced, and I always had enjoyed reading about medical things, liked to read "Gray's Anatomy," for instance.

"In 1944, I was talking to a doctor friend about the anatomy of respiration, not because I needed help then but just because, as a musician, I was interested. She got me started in the study of the subject."

Jacobs learned how the muscle work in breathing, how the rib cage moves, which nerves participate and how. He learned the roles of posture, body type, the function of lips and tongue and teeth and throat. He learned how the chemistry of the blood is affected by breathing studied - with apparatus borrowed from laboratories around the city - lung capacities and air flow rates. He studied breathing in athletes and in childbirth. He learned what happens when any of the myriad influences on the system goes haywire.

Despite vast medical knowledge Jacobs treats only bad habits, not disease. If he suspects a medical problem is causing the breathing problem, He sends the musician to a doctor.

THE MORE JACOBS learned about breathing, the more he marveled at respiration's infinite complexity and was drawn more and more to the importance of the "control panel" that made operation of these manifold tricacies simple.

"Your brain is free to cope with around you because it doesn't have cope with life within you. Why, you couldn't take a step if you had to think how to lift one leg and then the other and when and how to breathe and everything else.

"What you do is order a product and let your internal computer figure out how to do it. Except that it's was more complicated; the body is somewhat like a car, a complex machine operated by simple controls. I had a Buick four years before I even tried to open the hood, and when I tried, I didn't know how to do it. There was no need for me to be aware of all the mechanics of the car in order to drive it."

Many of the musicians who come to Jacobs are in their 40s and 50s, a time when evidence begins to show of a loss of elasticity of the lung tissues and the hardening of the cartilage of the rib cage that has been going on since about age 20 or 21.

THE PLAYER may run out of breath near the end of a phrase. He begins to worry. Are these the opening strains of the swan song for his career? Worry makes it worse.

What he doesn't know, but Jacobs does, is that playing on less than about a quarter "tank" of air sets up tensions in the body that create or enlarge symptoms of stage fright, that the throat constricts, reducing the airway, that the brain will then confuse a little air at high pressure for a lot of air at normal pressure, and the musician will be becalmed as surely and pathetically as a sailboat at sea on a breezeless day.

What the musician in such a pickle usually will do is forget that he has a control panel and, instead, start mentally to poke around in the innards of his respiratory machinery. Invariably, he does himself more harm than good.

"The muscles of the chest and throat and abdomen work in three basic patterns. The first, respiration, is accomplished through a segmented bellows system with about 55 percent of total inhalation done by the ribs and about 45 percent by the diaphragm. The segmented system lets you breathe in any position, lets you draw in at least enough air to sustain life. The smooth opening and closing of this bellows system makes for efficient operation of a wind instrument.

THE SECOND pattern is pelvic pressure - childbirth, defecation. Your abdominal muscles bear down increasing internal air pressure; your throat closes to contain the pressure. There's air inside you under a lot of pressure, but you can't get it out to play instrument.

The third pattern is the isometric opposition by which muscles are made rigid. That's useful in playing football but not in playing a trumpet.

A musician in trouble often will go to one of the two wrong patterns in an attempt to help himself. He will be employing perhaps only about half his air capacity, plenty when he was 21 but not enough now that he is 50. Jacobs can touch the abdominal and chest muscles of a playing musician and know in an instant the pattern of breathing.

"You have 669 muscles in your body, and 654 of them are antagonists, paired isometrically in a subconscious internal struggle Jacobs was now teaching a trumpet player from Germany, the man's first lesson. "You have the potential for great stiffness. You must find weakness. In the muscles of respiration, weakness is your friend."

"Weakness?" the trumpeter asked wondering perhaps if his unfamiliarity with English was confusing him, "weakness my friend?"

"Think of a violinist," Jacobs said "With great strength, great pressure (he poses as a straining string player), he cannot make music. But if you breathe like this (he pretends to bow in great graceful sweeps), frog to tip, frog to tip, full bow each time.."

The violinist pose is one of many ways Jacobs, aware, what a strong stimulus for learning the eyes are, tries to make breathing visual. ("Remember how you look full of air," he had told the trombonist.

"Remember how large your chest is.") Other visualizations involve the Rube Goldberg-looking devices that he has gathered and (like the one based on a furnace draft tester) made himself.

The image he wants to impart through devices and teaching techniques is that of wind, air in motion, air at work in the world, not bottled up in the body.

Many of the ideas and techniques Jacobs teaches are ones he pioneered. They often seem strange at first, and strange is just what he wants them to be.

"You can't rid yourself of a bad habit by trying to break it," Jacobs said. That just calls attention to it and makes getting rid of it harder. That's paralysis by analysis. I had a man once who had gotten a Ph.D. in brass instruments. He could write papers on how to play, but he had lost the ability to play. The way to overcome an undesirable habit is to replace it with a desirable one, and strangeness permits change"

He'll suddenly toss a ball to a student to demonstrate that the muscles work without your having to think. He'll have a student play while doing deep knee bends to show that even when strong muscle activity is directed away from respiration, playing is possible. He'll take the student's horn away, remove that strong psychological stimulus, and make him play on just a mouthpiece to take attention away from technique and put it on product.

"When you play, you shouldn't be asking questions, you should be issuing statements" he told a student. "I want your brain to be that of a storyteller. Don't mess with the lips. That's just meat. Forget the breath. Breath is simply a fuel supply, and it doesn't cost anything; so waste it.

"Don't be tentative. maybe you're not a great performer yet, but lie a little, be like the dancer with a sore leg who goes out and dances anyway. It's the story. It's only the song that matters."

Like the children in "Peter Pan" whenever a student forgets about internal mechanics and their beautiful thoughts about music, playing soars.

"The same is true for me," Jacobs said. "When I am investigating respiration, I wear an investigator's hat. When I am teaching, I wear a teacher's hat. When I put on the performer's hat, I know from nothing about breathing."

Jacobs lifted a tuba onto his lap, cradled it there, began to play passage from Walton's Facade Suite and did more than alchemists attempted. He made music out of air.