

The Pedagogy of Arnold Jacobs

This is a brief summary of a presentation/workshop by **Kimberlee Goodman, Angeleita Floyd** and **Alexa Still** at the National Flute Association's convention in Chicago, 2014.

Introduction

Alexa began with an introduction of Arnold Jacobs:

- Jacobs was born in June 1915 and died in October 1998 (2015 would have been the year of his 100th birthday).
- Jacobs held the position of principal tuba with the Chicago Symphony from 1944 to 1988, taught at Northwestern University and in his studio nearby, in Chicago's famed Fine Arts Building.
- Jacobs was a world-renowned expert in the physiology of breathing for brass, woodwind and vocal performance and for medical specialists, but more than this, he was a very inspirational musician; Angeleita described Jacobs as an "expert on breathing and air use for creating artistry." His residency at the University of Northern Iowa (March 1992) was described as follows: "Specializing in respiratory and motivational applications for brass and wind instrument playing and voice, Arnold Jacobs brought new insights to musical study through his vast knowledge of physiological and psychological aspects of respiration and wind instrument/vocal performance."
- Mayor Daley proclaimed June 25, 1995 as Arnold Jacobs Day in the city of Chicago.
- Legendary amongst musicians as "the man with one lung"; like many of his generation the young Arnold Jacobs was a chronic smoker. It is believed he had to have some lung tissue removed so "the man with one lung" was probably more accurately described as "the man with two halves of lungs". In any case, he suffered impaired capacity and was additionally an asthmatic like Alexa, Angeleita and many others.

Why this presentation/workshop?

Jacobs wielded huge influence in the brass world in particular as the acclaimed tuba player of the very respected Chicago Symphony Orchestra brass section. Jacobs' approach to teaching breathing is considered standard pedagogy in the brass world. We thought it was important to do this workshop at this convention: Chicago was Jacobs' hometown, and unfortunately he isn't here to do this himself. We feel lucky to have had this experience and want to share what we learned...

How did studying with him impacting our own teaching and playing?

We all came away with a collection of exercises (more on these later), which are fundamentally important to Jacobs' approach: "Learn a technique away from the instrument so you can concentrate on artistry when playing".

Alexa took four private lessons in 1996. For her, the major impact of Jacob's teaching was the opening up of her mind as a teacher to the impact of different body sizes (learning to develop realistic expectations) and to further embrace the idea that tone is largely a matter of how one uses air. Alexa came away from the lessons with far greater physical ease in playing, far better breath capacity and a deep appreciation for masterful teaching- a style she wanted to emulate.

Kim attended Jacobs' summer masterclasses in Chicago.

She attended during the summer of 1994. There were more than 50 people attending the week long masterclass. Everyone was encouraged to come up and play for Mr. Jacobs.

Angeleita noted that she had studied with Jacobs in faculty-only sessions, masterclasses and in a private session during his 5-day residency at UNI, she attended a 2-day masterclass at Northwestern, and then had a private lesson in Chicago. Angeleita remembered, in particular, Jacobs' emphasis on

- 1) Lots of singing in lessons; getting the students to connect to the voice for the song and image in the mind; and for connecting to the body.
- 2) Use of Vowel shapes; changing the size and shape of the mouth for different tone colors. For instance: for a deeper richer tone color, use "oh" and/or "ho", for a brighter color use "EE", and experiment with color and tonal changes with "AH", "UH", "OU", "KEE" and "O" (as in "though").
- 3) Getting away from the music and focusing more on broad or big picture items, what she described as "the real information".

And Angeleita mentioned a number of favorite frequent Jacobs' comments:

- 4) The embouchure is reactionary, it does not have a brain or intelligence, and you don't have to study the embouchure. Study music to learn the embouchure. As you control the sound (tone), you control the embouchure. Fill the brain with the sound of music, then imitation. The mind is being trained in the art form.
- 5) "A habit is like a conditioned reflex, very hard to break, the more you say I WON'T do so and so, the harder it becomes, so "change your motivation. Replace it with a positive action; I WILL DO this."

Alexa remembered another version of this; "Don't waste time trying to change a (bad) habit. Learn to love a new concept, and it will become the new habit."

Angeleita talked about some more concepts he shared:

Concerning the retention of air with open larynx and glottal region; hold air in the lungs as you count on the back of hand. This is how you can play a beautiful pianissimo. To get a more complete and full breath, he instructed to raise the chest under the fingertips; the sternum/sternal region should lift.

And about the "Valsalva Maneuver", the Pelvic pressure syndrome, which can cause closure in the laryngeal region. As an example, as you take air in, 2 lbs to 3 lbs, and then close the larynx, the diaphragm contracts downward, the breath is pushing down, air is blocked from going out, so it moves the bowels or helps to push out a baby.

Alexa added Jacobs thought that we could easily use too much pressure and that this excess effort/tension got in the way. So he talked a lot about "the flow" of air and the "easy" sensation one should have breathing and playing.

Kim and Angelita had more wonderful quotes to share:

"Hear the sound before you play it."

"The mind is being trained in your art form."

"Use the back of your hand if you need to touch a students. Ask permission. It's much less threatening."

"Ribs expand through elevation."

"Breath to Expand, not expand to breath" with minimal friction.

"Frog to Tip." (For describing a full and complete breath)

"Thin air vs. thick air" (terminology) "to conceptualize a larger quantity of air, stronger, use thicker air"

"Lips to Lungs" meaning an open throat and open larynx.

Alexa added, "Feel the air inside the mouth (on inhalation). Just relax the jaw, neck and throat to get a quiet breath"

Bibliography

Angeleita discussed a very comprehensive article "**Respiration for Wind Musicians: From the Bronze Age to the End of the 20th Century; A Synoptic Review.**" By André

M. Smith that can be found in the **TUBA Journal, Volume 20, Number 4, Summer, 1993**. Angeleita noted that the following topics were incredibly informative: Music and Pulmonary Medicine, Respiration in Greco-Roman Antiquity, The Dark Ages, Renewed in the Renaissance, Approaching the Modern Era, The 19th Century, Devices—Stethoscope, Laryngoscope, Spirometer, Wilder Bell Jar, X-Ray, Embouchure Visualizer, The Mirror, Women and the Brass Instruments, Women's Clothing, The Modern Era, and finally, The Work of Arnold Jacobs: *"After Jacobs joined the Chicago Symphony, he made the first attempts to place the teaching of wind instruments on a rational basis founded on the most recent advances of physiologists and physicians."*

Kim Goodman shared details of the books written about Arnold Jacobs:

Arnold Jacobs: Song and Wind. By Brian Frederiksen, editor John Taylor, publisher: WindSong Press Ltd, fifth printing 2002, ISBN: 0-9652489-0-9

Also Sprach Arnold Jacobs, a Developmental Guide for Brass Wind Musicians, compiled by Bruce Nelson, publisher Polymnia Press, 2006, ISBN: 978-3-9812456-2-2

Arnold Jacobs, The Legacy of a Master edited by M. Dee Stewart,

Arnold Jacobs: Song and Wind by Brian Frederiksen,

Teaching Brass by Kristian Steenstrup,;

Lasting Change for Trumpeters by Luis Loubriel,

Also Sprach Arnold Jacobs compiled by Bruce Nelson.

Two compact discs, *Arnold Jacobs Portrait of an Artist* and *Arnold Jacobs Legacy of an Artist*, were compiled by Frank Byrne as audio "time capsules" of his voice and playing.

Kim also clarified that the website **WindSongPress.com** has these books and video clips, breathing bags, breath control training equipment, CDs of Jacobs, and more, readily available for purchase.

Anatomy Coloring Book by Kapit and Elson

Angeleita noted that she also uses the following article as required reading in her Flute Techniques/Flute Pedagogy course: Arnold Jacobs' **Flute Talk** article (**Flute Talk, February 1992**)

Alexa noted that there are also many **videos** of Jacobs teaching his masterclasses kept in Northwestern University's library.

Jacob's Breathing Exercises:

Gesturing Exercises

"Trombone"

The blowing of (and gesturing) one's hand away from the body (looking like the action of sliding the trombone slide horizontally away) and inhaling (and gesturing) the hand towards the head when breathing in. This physical sweeping the air out and back in motion helps to emphasize the ease and fluidity in breathing.

"Frog to Tip"

Gesture while breathing as if bowing a full bow

"Arms up"

Raise arms directly above the head while breathing in (also has the benefit of helping to increase rib cage expansion), lower arms but continue to hold the rib cage high, while breathing out.

“Trombone-like hand movement from shoulder” exercise to develop awareness of capacity.

Hand positioned at the shoulder = at full air capacity (full inhalation).

Hand and arm stretched out and down at full extension = completely empty (full exhalation).

Exercise: try to break this motion into equal increments.

Start off with thirds, i.e. breath in a full breath with hand accompanying inhalation motion up to the shoulder. Expel one third (moving hand one third of distance away from shoulder), expel one more third (moving hand yet further away), and finally expel the remaining third (move arm and hand to full extension). Notice if any of the three expirations was larger/smaller (they should be equal). Try inhaling two thirds, out one third, in two thirds etc to test your sense of how much a third of a full breath is. Jacobs suggested aiming for accuracy in increments of six. The goal is to gain heightened awareness of how much air is in the lungs, to far better judge how much air is left (and how far one may still be able to play) and what size breath is required (and how big a gasp is necessary) in context. Being able to assess the amount of air still available significantly improves the type of breaths one takes (not every breath needs to be huge or fast!) and confidence while playing (instead of feeling either full or about to run out of air, the player will know with some confidence how far they can keep going)

Mental Image Exercises

To gain the sense of the best rib cage shape for a substantial breath, “do a Dolly Parton impression”.

Counting Exercises

To change from a slow to a much faster inhalation, measure against a count of eight. The pattern goes as follows: begin by breathing in to seven counts (1, 2, 3, 4, 5, 6, 7) and then breath out on one count (8). Then adjust to breathing in to six counts (1, 2, 3, 4, 5, 6) and breath out on two counts (7, 8). Then, breath in on five counts (1, 2, 3, 4, 5) and breath out on three (6, 7, 8), etc.

Alexa noted that Jacobs also recommended breathing in very slowly (as in the beginning of this exercise) to alleviate nerves.

Not Very Pleasant Exercise

Alexa shared an exercise allegedly developed for training of US Navy Seals, that she learned about second-hand from several of Jacobs’ tuba students:

Sit down, because this is physically very demanding and uncomfortable for most people.

Breath out as much and as fast as possible. Hold this “empty” position for as long as possible. When the emptiness is unbearable, breath in as much and as fast as possible.

Hold this full/almost exploding position for as long as possible. When the fullness is unbearable, breath out as fast and as much as possible, repeating step one.

Step one and two can be reversed (it doesn’t matter which you do first). Three sets (cycles) are desirable. Take a short rest between each set of three huge breaths/emptying.

The goal of this exercise is to increase capacity. While physically punishing, Jacob’s tuba students insisted that this exercise is guaranteed to increase capacity after doing three sets, three times daily for a month. The concept is that when one’s body is so desperate for a change (emptying air out or breathing air in) that physical desperation dictates technique; the body motion will be a very natural effective motion, and therefore breathing technique will improve.

Other Tools

Breath Builder Voldyne Volumetric Exerciser – an incentive spirometer (available at Windsongpress.com and many on line retailers and possibly from a personal friend recovering from major surgery). There are also other versions of this equipment available. Breath Builder Tube containing a ping-pong ball (also available from windsong.com and many music retailers)

The Breathing Bag (also available from Windsong.com or DIY- see below)

Anatomy 101 and the Breathing Bag

Before getting into the breathing bag exercise, it is necessary to understand some basic anatomy (please see the attached anatomical scans for further reference):

Lungs -where the lungs are located (rather high in the rib cage),

Rib cage - how the rib cage expands (the ribs rotate at the spine with a lifting motion of the intercostal muscles, and note that the ribs are extremely flexible at the front, including the sternum area),

Diaphragm function - the diaphragm is a semi automatic muscle that works really well if left alone (the term diaphragm is often misused)

Intercostal muscles – the intercostal muscles cannot raise the rib cage while abdominal muscles are engaged or tight (this is why excellent posture and relaxed abdominal muscles are essential to efficient capacity breathing)

Abdominal muscles – the abdominal muscles' primary job is to expel air (try shouting to feel that control) *after* the inhalation.

The breathing bag works best if it closely matches your capacity. The idea is that assessing the degree of fullness of the bag (is it tight and wrinkly or a little floppy looking?) will provide accurate feedback on the success of your inhalation, rather than the usual estimate from whether the breath *felt* good or not.

Purchasing the precisely measured breathing bags (such as the black rubber ones seen backstage in brass players' hands, designed to accurately measure anesthesia gas in surgery) is tricky if you don't already know your capacity. Alexa also noted that while they look nice, the black rubber bags are expensive and the rubber perishes quite quickly.

Here are instructions for making your own bag (such as the ones many people attending the NFA workshop received):

DIY Breathing Bag

Materials:

2-gallon freezer bag, with zip or other reinforced top part cut off

sturdy rubber band

short (approx. 2-3 inches long) piece of gas pipe or nylon hose of at least ½ inch diameter (a 90-degree gas pipe "elbow" is good for letting the bag hang nicely).

Note that a 2-gallon bag is most definitely too big for most people and will require significant trimming, but a one gallon bag is probably too small for most. 1.5 gallon bags would be ideal. Bread bags can also work well, but be sure to turn inside out to avoid breathing crumbs. Freezer bags are a good weight of plastic. Softer bags tend to get prematurely sucked into the pipe.

The ½ inch pipe is to facilitate breathing- the diameter should be big enough that air flow is not restricted. Some people use the cardboard roll found inside rolls of toilet paper, but these can get a little soggy with use.

Assembly:

Gather the open end of the plastic bag around the piece of pipe, fixing it in place with the rubber band. Don't tighten the rubber band too much yet, because it is likely that you'll have to reposition it. Squeeze all air out of the bag, then fill the bag with only one, continuous, biggest possible breath. This one continuous big breath should fill the bag to the point where the bag surface is firm (feeling like a slightly underinflated balloon) with a smooth to

semi-wrinkly surface. If the bag seems too full or too tight, make the bag bigger (move the pipe further out of the bag and/or move the rubber band further towards the open edge of the bag). If the bag is too floppy, move the pipe further into the bag and/or move the rubber band further away from the open edge of the bag, and you may also need to shorten the bag or cut excess bag away. It may take repeated adjusting to get the bag to the right size, but the bag must be sized closely to your capacity in order for you to clearly observe whether your breath going into the bag was bigger than the previous breath. If your breath is smaller, the bag will be noticeably more saggy, or even floppy.

Breathing Bag Exercise:

1) Empty bag in advance of doing the breathing exercise.

2) review good body posture: knees relaxed or slightly bent, hips and shoulders directly over ankles, weight evenly distributed on ball and heel of both feet, stomach area relaxed, head balanced and neck relaxed, so that the head position can imitate a “bobble-head” toy.

3) Breath!

Line up body on a $\frac{3}{4}$ angle in front of a full mirror (in order to observe body position) and after inhaling a huge breath, blow up the bag. Hold this position (keep your lips sealed over the end of the pipe) and observe if bag is as full, or not as full as desired. Make note of any relevant postural corrections needed. If the breath in the bag is of an acceptable amount, proceed, breathing air back in directly from the bag. The inhalation should eventually be done faster, to replicate the speed of a normal inhalation while playing.

Repeat in/out 3 times. Then take a rest before doing the exercise over again.

Note that breathing this same air in and out of the bag three times also avoids hyperventilation.

The goal of the breathing bag is to learn effective breathing technique. This is a classic example of Jacobs’ “learn a technique away from the instrument so you can concentrate on artistry when playing the instrument”. Please note that comparing the size of your breathing bag to another’s may be entertaining but it is irrelevant! The bag size must be matched to the individual in order to quantify the amount of air they are breathing/blowing to provide them with accurate feedback on their exercise.