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Some Observations on Respiration

Dale Clevenger

Shortly after arriving in Chicago—forty years ago, alas, forty wondrous years, February 6, 1966—I was visiting in Arnold Jacobs’ home along with his first cousin, Joseph Singer. We had enjoyed a lovely dinner prepared by Arnie’s wife, Gizzy. After dinner Joe and I had our lung capacities measured. Joe’s was about four liters and mine was six liters. I was twenty-five years old. In the ensuing years, for the rest of Jake’s career, he and I had dozens of conversations back stage in many concert halls throughout the world about breathing (respiration). For years I have used the information I learned from Jake, and talked about proper breathing to all my students. I have stressed taking full, deep, yoga-like, inspired breaths of air as a “normal” function in our profession.

While I have always tried to practice what Jake and I preached for years, it is lately that I have really been forced to re-examine this whole, extremely vital subject of respiration. Because recently, I discovered that I now possess *four* liters of air and not the *six* liters, with which I began this wonderful venture. Jake always maintained that improper use of a brass player’s respiration, breathing, lungs, wind is the *basis*, the *core*, the *primary physical* (not mental!) *problem*, and the *reason* for the vast majority of brass player’s demise or necessary departure from the stage or from successful performance.

There are, of course, notable exceptions—people who have used wind properly throughout their careers. The most famous of these is Adolph “Bud” Herseth, who served for fifty-three years as principal trumpet in the Chicago Symphony Orchestra. But, in the course of my years with Arnold Jacobs (another famous exception, by the way), hundreds of brass and woodwind players and singers came in a steady flow to Chicago to see Jake. He saved countless careers by discovering and pointing out respiration deficiencies, suggesting ways of turning negatives into positives, and changing the deficient into efficient and successful performers.

INGREDIENTS:

A realistic expectation for the future. A commitment to preparing oneself for the longevity.

SERVES:

All wind and brass players.

What’s my point?

Beginners, students, amateurs, teachers, and professional brass players and musicians, I freely give this information—even more, *criteria*—for success. Like me and all brass players

who are aging, we are also *losing* air capacity as we age. If we do not recognize this fact and actively remember to use *what* air/wind/fuel capacity we have as efficiently and effectively as humanly possible, we will soon join the ranks of the early retirees. (I am not speaking of those who choose to stop or have to stop playing for personal or other physical reasons. I am speaking first to *myself* and then to all who want to play and perform as long as physically possible and as long as we enjoy and have fun performing.)

Remember: breathe full, deep, yawn-like, and inspired intakes of air and then use it as efficiently and effectively as possible. Some things to assist us in this process are:

1. Pretend you are diving or going under water in order to swim quite a distance. The breath you would take would not be a small, “half-hearted” one.
2. You would not be concerned in the least about how much your thoracic (chest) cavity moves.
3. The comfort level of this extreme breathing movement is very different from the “normal” daily breathing, which is a natural reflex activity. The physical sensation of a deep breath may seem at first uncomfortable and unnatural . . . it is, and this is okay.
4. As a runner, exerciser, or sportsperson is panting greatly at the end of a race, game, exercise routine, or even a marathon, so we must thoughtfully and in a calculated and purposeful way simulate this respiration of athletes.
5. Another analogy of breathing used by Mr. Jacobs is a “fright and flight” response. This is a psychological term that describes an instinctive, life-saving breath.
6. Teachers who advocate nonmovement of certain areas of the upper body while breathing are really doing a disservice to the student. Every person moves differently while breathing deeply. Movement is a result of breathing fully, not a criteria of how to breathe.
7. Under the stress of a lesson, rehearsal, audition, or performance, all brass players are likely to forget to breathe deeply enough to perform at optimum level. Our nerves or fear factor (negative terminology), which I refer to as anxiety, concern, or care (more positive terminology), under stress, often cause us to breathe too shallow, with not nearly enough fuel to function comfortably. Those of us who are aging will certainly notice this syndrome sooner or later—alas, sometimes too late!
8. We must, particularly in our practice of quality tones (long tones), scales, etudes, and everything musical, make deep breathing a *habit*. For the sake of our career, we have no choice in this most important *physical* part of playing a brass or wind instrument but to breathe as if our careers depend on it . . . and they do! ➡

Clearing the Air—Do You Really Need to Learn How to Breathe?

Dave Kirk

Tubists are often considered experts on matters respiratory, and with some justification. Any accomplished player you've enjoyed hearing has likely given some thought to how they produce the air, resulting in beautiful sound, enhanced flexibility, and crisp articulation.

In lessons I teach, time is spent addressing breathing, but it's often a process of simplifying concepts. I've discovered there is a great deal of information creating barriers to progress.

Stated simplistically, if you're reading this article, you've done an outstanding job of breathing for *[insert your age here]* years, right up to this moment. Congratulations, you already know how to breathe! For wind players, our obvious issue is obtaining and utilizing a large quantity of air.

The problems I see are in deviations away from the natural process, including but not limited to:

- over-analyzed vowel-inflected inhalation
- reliance on resetting the embouchure
- overemphasis on the role of the mouth in inhalation
- excessive speed and/or tension in inhalation (and resulting exhalation)

I will argue each of these points, and offer some simple exercises to emphasize a return to the natural path.

INGREDIENTS:

A desire to simplify your breathing

A tonal concept of beautiful sound, flexibility, and crisp articulation

SERVES:

All breathing musicians.

Breathing vowels. Many players are taught to think of the letter "O" during inhalation. I believe the "ah" sound to be more natural. To illustrate, speak the words "Tom" and "Toe," holding out the final vowel sound of each word. What feels more relaxed in the oral cavity and throat? To achieve greater resonance, constrict less.

Resetting. Purposefully or not, many players reset the position of the mouthpiece each time a breath is taken. I liken this to a violinist lifting the bow completely off the instrument

between each phrase, something you'll never see at a concert where there's paid admission. Adequate air may be taken through the sides of the mouth, or by backing away slightly from the instrument at the moment of refilling. It is most important to maintain the embouchure, as we seek to develop the strength and flexibility of a single point of placement. As we breathe, we strive to maintain the position of tone quality.

Mouth breathing. This is essential in wind performance. You can't beat it for quantity! That said, consider for a moment that the majority of breathing we do everyday is with the nose. The nose breath is comparatively more relaxed and smoother. I encourage players to work towards incorporating *both* nose and mouth for inhalation. For some this is a novel idea. Check yourself the next time you do some highly aerobic activity. You'll see how efficiently mouth and nose work in tandem when the body demands maximum airflow. When playing, we seek to have the gentle, relaxed quality of the nasal breath instruct the complete process.

"Turbo-breathing." The breathing we do when making music should be an uncomplicated extension of what we already do. Methods or approaches taking a player away from this basic concept are counterproductive. Recognizing the necessity for quick breaths within musical phrases, those breaths should be trained within the principles previously stated.

To illustrate this point, try a simple exercise I call "The Five Breaths," first done *without your instrument*.

Take a breath and make the exhalation of . . .

1. A *pianissimo* long note (25 percent of capacity)
2. The same note at *mezzo piano* (40 percent)
3. A *mezzo forte* well-supported sound (65 percent)
4. A *forte* with great projection (80 percent)
5. A *fortissimo*, noble tone (95 percent)

Each successive breath/exhalation is built upon the last. Your process remains the same; the volume and projection increases. Now try it on your instrument and listen to your sound fill a room (at every dynamic).

Exhalation

A subject often overlooked in discussion of respiration is **exhalation**. If students struggle with taking a full and relaxed breath, I encourage them to first blow all the air out of their lungs. By creating a need, a deep inhalation always follows, and the basics of good playing have once again found their foundation.

I also encourage players, as they prepare to make entrances, to make a habit of exhaling in time with the established pulse of the music, then bringing the breath back a beat before the entrance. By using this method of purposeful deprivation to create natural desire, we reinforce a habit of good musicianship.

Exhalation feeds tone. Rarely will compliments be given for your method of breathing, but the tone, naturally supported, is always a source of wonder for audiences. ➤

Mouthpiece Whistling and Resistance Mouthpiece Inhalation: Two Unconventional Things to Do with Your Mouthpiece That Enable You to Play with More Open, Freer Sound

Steven Mead

Musically, all of us are “products” of our past musical training, and we instinctively behave and react in a similar way to the way we did when we were very young. So does it mean that our brass performance is predefined for us? Maybe, but my tempting little recipes can enable any brass player to unlearn some bad habits and quickly formulate new ones. A bold promise, yes, but these simple related recipes may balance your acquired knowledge of how to play a brass instrument with the skills (good and bad) that you picked up between the ages of, say, five and twelve.

Here are two techniques to try with mouthpiece alone—really a “starter” to be consumed before the main course, rather than as the main dish itself.

INGREDIENTS:

Your mouthpiece, cleaned inside and out (as per normal!)

A tuning machine or keyboard, or just a very good sense of pitch

A mirror

SERVES:

All brass players who feel the need to play well; in particular, those who suffer from airflow issues and a poorly shaped embouchure.

The first recipe can be served either at the beginning of a practice session or indeed in the middle of one, or mid-rehearsal.

Often our performance can be improved by utilizing more space inside the mouth and at the back of the throat. The benefits of deep breathing are often negated by a restriction in the throat area and at the back of the oral cavity. Tension makes this worse, as does a lack of “vocal awareness.” The air simply cannot pass freely through the lips, causing a restriction in tone quality, dynamic range, and pitch range, to name but three. If such a concept is appreciated very early in one’s musical life, this area of technique often stays with us a lifetime, but it can be learned, of course.

- Take your mouthpiece and, ensuring the shank has been cleaned, turn it around, then put your lips around the shank, ensuring the lips overlap at least 2 cms (about ¾ inch) from the end of the mouthpiece.
- Hold the mouthpiece with one hand and now breathe in and out slowly. Stay as relaxed and open as possible and use a mirror to check that there is no facial tension.
- Now take the forefinger of the spare hand and jam it into the backbore of the mouthpiece, blocking *just about* all the space. Breathe in again, gently at first, sensing how the body is now trying to take in the air, despite the massive resistance you've created. Relax more and check for facial tension.
- Now increase the velocity of the intake, trying to fill your lungs completely in about 4 seconds, and then exhale for the same duration.
- You are now creating a wonderfully powerful tone chamber inside your mouth and in the throat area.
- Continue this for about a minute (stopping earlier if you become dizzy, faint, or die).
- Reunite mouthpiece with instrument and carry on playing. The benefits of this “dish” are immediate and can be long lasting.

The second recipe uses exactly and same ingredients, but now the mouthpiece is the “correct” way round. I've enjoyed this dish for years and it brings back happy childhood memories of when I was an “angelic” boy soprano! Vocal concepts have always been important to me and this unites a vocal approach with whistling— not whistling with the lips but the natural pitched sounds that emanate from the mouthpiece alone when warm, “round” air is passed through it. Benefits of this are essentially: 1) a more rounded aperture, 2) an awareness of the “bicycle wheel” of control muscles we have round our lips, and 3) control of the moving air from the base of the lungs.

- Hold the mouthpiece as if you are going to buzz on it. Without vibrating, the lips pass a large amount of air through so you're emptying your lungs in, say, 2 seconds for trombone, euphonium, or tuba, maybe 5 seconds for trumpet, and 4 for horn (a real *fortissimo* burst of pure, warm air). Ensure that the sensation in the middle of your aperture is the same as when you had the shank of the mouthpiece in your mouth in Recipe 1.
- Now take a good breath but allow the air to pass more slowly—say, *mezzo forte*—and double the exhalation time. As you do this, imagine the pure sound of your lips whistling (don't worry if you are a nonwhistler) or a pure hummed tone. You might, as you near the end of this breath, hear the first signs of the elusive mouthpiece whistle.
- Now take a similar large breath, but now try to make the exhaled air very warm and very slow. If you hear anything resembling a hiss, there is either a snake in your practice room, or you are forcing/squeezing the air through an aperture that is too “flat.”
- Persist with this very soft air and the pure whistle will come. It's possible on a trumpet mouthpiece but very high pitched, quite easy on a horn mouthpiece, and very easy, once you do it right, on anything bigger.
- Use a keyboard or tuning machine to ascertain its pitch, and then try to increase your whistle range to three notes, then up to eight. Don't press too hard on the mouthpiece, and check in the mirror that your eyes are open and you don't look

too weird! Try to sustain your notes for 10 seconds or more. Once you get good, expand your mouthpiece whistling range to include Herbert Clarke's No. 2 finger drills.

This exercise will improve your tone quality as you are forming a rounder aperture and maintaining the “cylindrical” aspects of your air column to where it leaves your lips and as it travels through your instrument. If it doesn't happen right away, don't give up; it may take a few days. Like **Recipe 1**, you could hear an immediate improvement with the “real” playing that follows.

Good luck with this. Enjoy. ➡

Dynamics: Absolute or Relative?

Ralph Sauer

When we learn to read music, our first teacher usually explains that the letter “*p*” means soft and the letter “*f*” means loud. The other markings, *mf*, *ff*, etc., are then explained in relation to soft and loud. As a basic description of levels of sound, this is quite adequate for the beginning player. However, as we start to play more complex music (and in better ensembles), the inadequacies of these simple descriptions become apparent. If *fortissimo* means extremely loud, does it mean that the passage in question should be played as loudly as possible? If the whole ensemble is marked *fortissimo*, does everyone play as loudly as they can? Do the trombones play as loudly as the flutes? I hope not. Musical chaos is the result of this kind of rigid approach to dynamics.

INGREDIENTS:

None

SERVES:

All brass instrumentalists.

More often than not, dynamics indicate a **quality** of sound rather than a **quantity** of sound. In addition, it is also necessary to know if your part is an important, thematic line or a supporting line. It is possible to play a passage marked *forte* with a soft quality (for example, the 2nd trombone solo in the Mozart *Requiem*) and a similarly marked *forte* passage with an aggressive, louder—in decibels—sound (Wagner’s *Ride of the Valkyries*). In fact, you must play this way in a fine ensemble. Playing every *fortissimo* as loud as possible is the reason inexperienced brass players very often “get the hand” from conductors.

One of the most difficult sounds to produce on a brass instrument is a *fortissimo* level of sound with a soft quality (Bruckner, for example). Another difficult dynamic is a *piano* level of sound that projects well to the audience. Many times a solo line will be written with a soft dynamic indication (*p*, *mp*). If we try to play softly (in decibels), the solo will not project. Many years ago, I remember playing some Copland pieces with the composer conducting, and every time I played some small solo that was marked *piano*, he would ask for more. He was after a soft quality of sound, but with a lot more decibels than *piano* meant to my inexperienced ear.

Once we understand what the dynamic markings truly mean, how do we produce them? In the music of Richard Strauss, Tchaikovsky, Mahler, etc., a *fortissimo* can generally have quite a strong accent on each note. This tends to give a more aggressive quality appropriate for these

composers. Raising the bell of the instrument at the proper moment can also greatly increase the volume intensity to the listener. The same *fortissimo* marking in Schubert requires a softer sound so, here, less attack (and a little fewer decibels) would be appropriate.

Also remember that shorter note lengths sound softer to the listener, while longer notes sound louder. Use this phenomenon to your advantage. If you are trying to achieve a loud (in decibels) sound with a softer quality, try to play as *tenuto* as possible without totally destroying the intent of the passage. To achieve a lighter *fortissimo*, put a little space between the notes and don't sustain the sound quite as much. Remember that *staccato* doesn't always mean "as short as possible." Generally, it means "to detach." Of course, composers interpret this differently. For example in Stravinsky, a *staccato* note is usually played very short. In Brahms, the same note would be quite a bit longer. To project a soft—in decibels—sound, playing with the bell up makes a big difference "out front."

To the question, "Are dynamics absolute or relative?" my answer is that dynamics are always relative. Dynamics must be adjusted for the size of ensemble, the size of the performance space, the particular period or style of music, and, most importantly, how your particular part fits into the musical fabric. ➤

Articulation, Projection, Respiration: Recipes for Improving Three Essential Skills

Susan Slaughter

Here are three training techniques that have worked well for me and my students.

INGREDIENTS:

Real or imagined target (bull's-eye)

Notebook and pencil

Incentive spirometer or Inspiron (Inspirx®)—one very small ping-pong ball encased in a vertical tube that allows one to inhale and, by turning it upside down, exhale

A stopwatch or clock with a second hand

Your mouthpiece

Your instrument

SERVES:

All trumpet and horn players.

Practice and Improve Attacks

- Place a target (bull's-eye) on a wall directly in front of you.
- Make your notes “hit” the target.
- Do this at all dynamic levels and in all ranges.

Practice and Improve Projection

- In a concert hall, pick a target on a far wall or in the balcony.
- Make your sound “hit” the target (wall, balcony).
- Do this at all dynamic levels and in all ranges.

EXERCISES WITH THE INSPIRON (INSPIRX®)

Exercise 1

- Expel all of your air before inhaling
- Note the resistance setting of the Inspiron
- Place the tube of the Inspiron (minus the mouth attachment) into your mouth.
- Start the stopwatch as you inhale through the tube. Use only as much effort as necessary during your inhalation to maintain the ball at the top of the Inspiron.
- When the ball starts to drop, stop the timer and log your time.
- Repeat three times.

Repeat **exercise 1** six more times using different settings on the Inspiron.

Exercise 2

- Return the Inspiron to the original setting.
- Place a piece of masking tape in the center of the column.
- This time, upon inhalation, maintain the ball in the center of the column where you have placed the masking tape.
- Time and log yourself as before and repeat at all settings.

*For exhalation exercises, turn the Inspiron upside down.

Exercise 3

- Take a deep breath.
- Place the tube of the Inspiron into you mouth.
- Note the resistance setting of the Inspiron.
- Place the tube of the Inspiron into your mouth.
- Start the stopwatch as you exhale through the Inspiron. Use only as much energy as necessary during your exhalation to keep the ball at the top (originally the bottom) of the Inspiron throughout the entire exhalation.
- When the ball starts to drop, stop the timer and log your time.
- Repeat three times.

Repeat **exercise 3** six more times, using different settings on the Inspiron.

Exercise 4

- Return the Inspiron to the original setting.
- This time, upon exhalation, maintain the ball in the center of the column where the piece of tape is located.
- Time and log yourself as before and repeat at all settings.

Exercise 5

- Return the Inspiron to the original setting.
- Inhale and hold the tube $\frac{1}{2}$ to 1 inch in front of your mouth (tube is outside of mouth).
- As you exhale, focus your column of air to enter the tube and cause the ball to rise to the top of the column until you run out of air and the ball drops.
- Time and log yourself as before and repeat at all settings.

Exercise 6

- Now insert your mouthpiece into the tube on the Inspiron.
- Place your lips (if possible) around the outside of the mouthpiece.
- Repeat exercise 5 with lips wrapped around the outside of your mouthpiece rim.
- Experiment with different settings.

Exercise 7

- Now place your lips inside the mouthpiece but do not allow them to vibrate (buzz).
- Repeat exercise 5 with lips inside the mouthpiece.

