Developing A Beautiful Clarinet Tonal Concept Through the Formation of the Venturi

Bob Straka

Once upon a time while in grad school at Yale, and decades before Covid, six diverse clarinet students from around the country did a seminar experiment where we played on each other's entire set up for ten minutes. Even with vastly different mouthpiece-reed configurations, we always somehow managed to sound just like ourselves before the ten minutes were up and it was time to pass the instrument along. As it turns out, while equipment does play an important role in 'facilitating' our artistry, the most defining aspect of one's tone is our own well-established inner concept of beauty.

First and foremost, it is incumbent upon every teacher to know what a resonant tone is on every instrument that they instruct and to recognize when a student's tone is correct. Clarinet teachers must also know how to teach the clarinet-specific airstream and voicing techniques inherent in properly guiding the students toward resonant tonal concepts. The teacher does a disservice if they just leave it to chance and let the students 'accept whatever comes out' of the instrument.

The Value Of Regular Listening

If one is teaching visual art, she would have the class observe and then try to imitate the various attributes of master painters. In our beginner clarinet classes, the teacher should regularly expose the students (and themselves) to artist-level recordings so that all can learn to listen critically, and gradually become aware of the qualities of a beautiful sound. Just three or four minutes a couple times each week of 'being the audience' will pay big dividends over the course of the year and far beyond.

This partial list of artist-level professionals shares hours of breathtaking performances easily accessible on YouTube. They can help to elevate any non-clarinetist educator's tonal concept (and many clarinetist teachers too for that matter!) and that of their students beyond the daily band classroom din and onto a concert hall stage. A recording is worth a thousand words…

- **Sam Boutris** - Fort Worth native
- **Sharon Kam**
- **Han Kim** -
  (recordings starting at age nine make a big impact on students)
- **Robert Marcellus** - Cleveland Symphony
- **Sabine Meyer** -
  (first woman principal player in the Berlin Philharmonic)
- **David Shifrin** -
  (teacher of Sam Boutris at Yale)
- **Annelien van Wauwe**
- **Harold Wright** - Boston Symphony
  (my personal favorite)

For the sake of brevity, the remainder of this article will only cover proper voicing of the tongue and the related effects on the airstream. That being stated, remember to always have the students engage their abdominal muscles to push a firm, 'pressurized' airstream at the clarinet mouthpiece. There are plenty of quality articles on that topic to search out.

ven- tu- ri a short narrow tube between wider sections for measuring flow rate. Airflow through this narrow channel increases its pressure and velocity.

Unlocking The Name Of A Familiar Fundamental

About two years ago I was having some adjustments made on my clarinet by master acoustician, Tom Ridenour. During our conversation about all-things clarinet, Tom mentioned that when placed properly, the back of the tongue creates a **VENTURI** to further increase air speed. Wait…. A what? Even after 37 years of teaching, I still hadn't heard or used that word. Venturi valves are common throughout the HVAC, plumbing, automotive, and aviation industries to regulate flow.

It turns out that every time we tell our students to raise the back of the tongue or to hiss like a cat, and that is probably quite often, they should be creating a 'venturi,' a narrow passageway starting at the back end of the hard palate. This adds increased blowing pressure against the air column, and assuming the student is using firm (not tight) abdominal support, accelerates the air's velocity forward to the front of the mouth. Blowing pressure is closely related to air speed and ultimately tonal resonance. A correct high tongue position plays a major role in controlling pitch and creating the characteristic tonal focus of the clarinet tone.

The soft palate tissue at the back of the throat, under the tongue, and even the inside lip and cheeks acts as a sound dampening panel and slows down the airstream. Caution the students against blowing down into the clarinet, which often results in a dull and flabby tone quality. Vibrancy in clarinet sound is dependent on blowing at the reflective surface of the hard palate. The air stream should be aimed ***upwards*** at the roof of the mouth to just behind the upper top teeth where the mouthpiece is inserted. Tell the students to blow firmly ***against the reed*** to make it vibrate energetically. It might tickle the bottom lip at first and that is a good thing!

What about the placement of the front of the tongue? I'm glad you asked!

PTA- Possible Trigger Alert: the following section is based on my own performance habits and the successes I had in teaching voicing to my former clarinet students over many years.

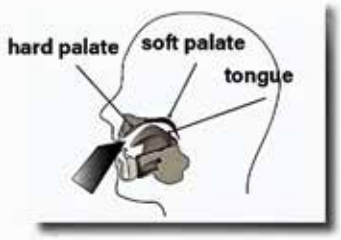
res - o - nance the quality in a sound of being DEEP (containing a strong fundamental), FULL (of upper overtones), and REVERBERATING (vibrant).

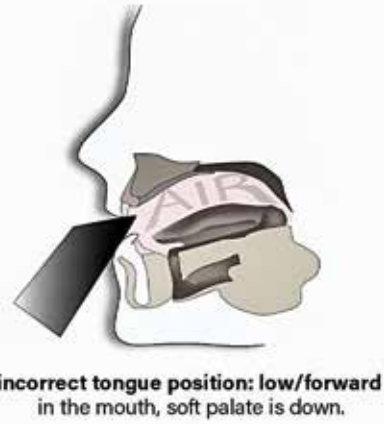
The most common correct vowel shape used for teaching a focused and clear clarinet tone is **"EE"**. It raises the tongue to the top of the mouth and makes use of the venturi. It's also simpler to teach just one vowel shape. However, as players mature, this voicing may lead to a one-dimensional and thin tone quality.

diph - thong the sound formed by the combination of two vowels in a single syllable.

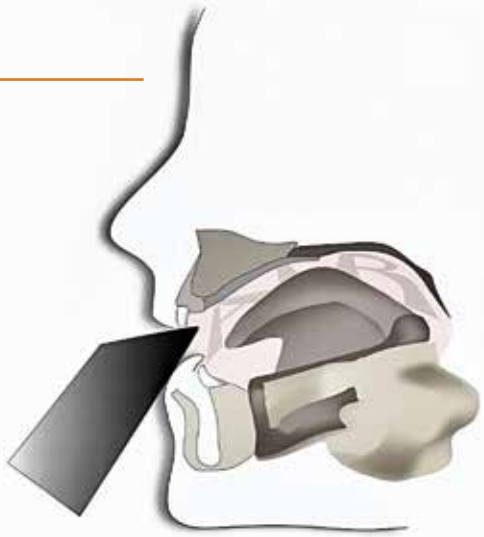
To add depth to the tone, one must form the diphthong **"EEW"** as in church **"pew"**. This engages and firms the muscles around the entire 'embouchure mask.' It simultaneously flattens the chin, pulls the corners in, and anchors them against the cuspids, making it impossible to puff out the cheeks when done correctly. More importantly, the downward angle of the tongue tip adds more resonance space inside the very front of the mouth around the reed. Since the mouthpiece/reed interface adds yet another venturi into the 'blowing system,' the extra space creates one final focal point to propel the air at the reed while also strengthening the fundamental of the pitch being played. The Tonal Energy app placed on the 'Harmonic Energy Series' Analysis feature accurately measures the strength of the fundamental and overtones of any pitch.

Tongue Position





incorrect tongue position: low/forward
in the mouth, soft palate is down.



correct tongue position: high/back
Note also that the soft palate is lifted as if the subject were yawning with the mouth closed.

Courtesy of Tom Ridenour

Returning to the crux of this article, the end goal of all this detailed voicing pedagogy is attaining a level of **musical artistry**. By listening to professional performers regularly, both the teacher and students can 'experience beautiful clarinet tone in the context of lyrical phrasing.' **It is through this connection with true artist-performers, in concert with sound playing fundamentals, that young music students can begin to assimilate daily classroom lessons toward developing their own inner concept of musical artistry.** The teacher shares an awesome responsibility in guiding them to this end.

Teaching Proper Tongue Voicing to a Young Clarinet Class

1. Have the class slowly say "KHEE KHEE KHEE" (as in house key) to sense where the tongue forms the venturi on the hard palate.
2. Next, say "KHEE HEE KHEE HEE" then "HEE HEE HEE"
   Notice what the air feels like passing through the "HEE" venturi. Remind the class to always use a firm airstream from their abdominal area.
3. Moving on, give the command to take a relaxed inhale 'YAWN BREATH' (low tongue) followed by a firm "HEW" exhale (high tongue) aimed at the upper front teeth.
   Do not hurry this step. The students must become aware of the immediate lowering and raising motion at the back of the tongue when breathing in and blowing out, and it needs to 'become natural.'
4. The last step before adding the mouthpiece is to simply sound a drawn out "DEW" or "TEW " depending on your preferred articulation consonant. *Then articulate the syllable on a firm and high-pressured airstream with air only.

Finally, just add the mouthpiece and repeat the *second part of step 4.

A Few Helpful Facts About the Mouthpiece/Reed Interface from Brad Behn

The mouthpiece and reed combination do play an important role in the ease of tone production and can add a whole other set of variables into the venturi equation.

In general, the facing of the popular Vandoren M13 Lyre, M15 Lyre, and the D'Addario XO mouthpieces have a 'Close Tip' opening, (the small distance between the tip of the reed and the tip of the mouthpiece) and a Medium Long Curve (the point at which the mouthpiece curves away from the reed to the tip).

These models are excellent choices for beginners and beyond as they facilitate playing with a focused tone, are stable at medium and soft dynamics, and do not take a lot of lip and jaw pressure to play evenly with the correct reeds. These facings work well with #3-4 strength reeds depending on the brand and model. Do not press the students to play too loudly on them or the sound will become forced.

The Vandoren BD4 and BD5 models along with D'Addario X5 and X10 have wider tip openings and gradually longer curves. These mouthpieces require more embouchure and air pressure to control the playing stability, causing younger students to fatigue more easily and to lose tonal resonance.

Both, Brad Behn and Tom Ridenour have numerous articles and selected performances on YouTube about anything you could ever want to know on playing the clarinet and its equipment. Also, feel free to contact me with any questions you may have at:
Apollobnd1@aol.com

BOB STRAKA retired in 2020 after 37 years of teaching in CT, and the Richardson, Allen, and Plano ISDs. His Apollo Jr. High band was chosen as class BBB Honor Band in 2001. Bob credits much of his teaching pedagogy and ideology to his friend and mentor, Jerry Brumbaugh. He spent the last decade of his career at Schimelpfenig MS in Plano.

Bob is a graduate of West Virginia University and the Yale University School of Music, where he received a Master's degree in clarinet performance. While at Yale, he had the good fortune to perform master classes with Aaron Copland and Benny Goodman.

Bob is currently an active band clinician at several area middle schools and regularly performs as principal clarinet with the Mesquite Symphony Orchestra, the Plano Community Band, and the Plano Clarinet Choir.