



On the Voice

Duane Cottrell, editor

Seven Essentials for Developing Voices in Choir: Part 2

by Francis Cathlina

Editor's Note: Part 1 of this article appeared in the July/July 2021 issue of Choral Journal (Volume 61, No. 11).

Singing in a choral ensemble can create a positive impact in the lives of its singers, helping them find community to develop into emotionally whole human beings. Finding ways to encourage the singers to view themselves as worthy, talented, and special is highly important. Their individual vocal development can foster this belief. Consistent support from the choral director, along with a strong understanding of healthy vocalism, can promote the singers' positive view of their own voice. This provides an outlet for self-expression and encourages high self-esteem in the singers—no matter the age. To do this, choir directors must be aware of the challenges their singers face. Vocal technique—rooted in a scientific understanding of the

voice and backed by historical pedagogy—is imperative in helping the singers navigate the musical complexities in a rehearsal setting. The building of strong voices in choir relies on the following seven key principles: the choral warm-up, posture, breathing and support, tone, choral blend, musical acuity, and the conductor's model/gesture. This article is the second and final installment of the previously published article *Seven Essentials for Developing Voices in Choir: Part 1*, and focuses on the final four precepts: tone, choral blend, musical acuity, and the conductor's model/gesture. By refining the choral conductor's knowledge of these seven essentials and expanding their pedagogical toolboxes to use in rehearsals, each singer's technique can blossom healthfully within a choral ensemble.

Tone

Tone development constitutes the richest section on developing voices in choir. Few things influence vocalism more than laryngeal position. The larynx's position, which houses the vocal folds (the source of all vocal sounds), has a tremendous impact on the length of the vocal tract. In altering its position, one can significantly alter tone quality. Elite classical singing calls for a low, stable larynx at all times. A lowered larynx is the result of engaged infrahyoid muscles and relaxed suprahyoid muscles, which are connected to the jawbone—an area where many singers battle tension. The low larynx also positively contributes to vowel quality: it lowers all vowel formant frequencies so the vowel sounds become warmer.¹ This is often what choir directors seek when they ask for “tall vowels.” The tone produced in this manner employs acoustical properties that are better suited to the blend required

in a choral ensemble. Conversely, a tone produced with a raised larynx is characterized as bright, brassy, and “spread,” which is not ideal for the *bel canto* style.

To develop this technique in your choral singers, encourage them to sing through the beginning of a yawn. Synonymous with an “open throat,” this “yawn-sigh” corresponds to the sensation of a raised soft palate, a common instruction in choral rehearsals. A second way to help singers identify this lowered laryngeal position is by having them palpate their thyroid cartilage (Adam’s apple) to track its movement.

This kinesthetic tool introduces a physical awareness.

A third way consists of having the singers close their lips, open their teeth, and inhale deeply through the nose.² Singers will instinctively lower the larynx to open the airway as wide as possible. /o/ and /u/ vowels also encourage a lowered larynx, so utilizing these two vowels during voice building—or when singing on neutral syllables—will help solidify this concept. Once the singers become aware of the larynx’s tendency to rise with pitch, they can work toward keeping the larynx low, even while ascending. If further assistance

is required, the use of ascending *portamentos* on an /o/ vowel can help re-establish this foundational skill. Once this low larynx is a part of the singers’ vernacular, their tone quality will improve exponentially, and the overall choral sound will become opulent.

Sustained tone exercises are effective in both breath management and tone development (yes—two birds, one stone!). These exercises achieve a goal similar to weight training in the fitness world: building muscle. They develop strength in the core of the voice, more specifically the thyroarytenoid muscle (TA). This results in a

fm forward motion

Online learning for educators by educators.
Graduate credit now available!

www.fwdmotion.org

brought to you by
mcp manhattan concert productions

firmer glottal closure, stronger tone quality, greater resonance, increased vocal stamina, and expanded range.³ An ideal sustained tone exercise for a treble is singing an /o/ vowel (to encourage a low larynx) on any pitch between C4 and C5; this same exercise works for tenor-bass voices between C3 and C4. Listen for firm glottal closure supported by consistent airflow. If this is not heard, have the students speak the /o/ vowel energetically, and re-sing it with the same feeling.

Including the *portamento* in a choir director's vocal pedagogy toolbox is critical to developing the cricothyroid muscle (CT). If done well, this will gently stretch the CT muscles, and promote coordination between the CT and TA muscles. Cottrell recommends starting on a moderately low pitch and ascending a perfect fifth above *without any break in the tone* and then back down.⁴ The simplicity allows for the singer to maintain consistency in tone quality and vowel throughout the slide. Once mastered, increase/decrease the interval as technique is developed (consider increasing it to a perfect octave or decreasing it to a major third). Using the *portamento* exercises develops true legato singing through register equalization, carefully controlled subglottal breath pressure, stability of laryngeal position, and constant, well-supported breath flow.⁵

From the first part of this two-part article, one understands that glottal closure influences breath support. Additionally, it drastically impacts tone quality. Firm glottal closure leads to a brilliant, ringing tone, while loose glottal closure produces a

breathy, weak, and veiled tone. This loose glottal closure results from a lack of tension in the adduction muscles: the IAs (interarytenoids) and LCAs (lateral cricoarytenoids). The solution for this lies in Manuel Garcia's *coup de la glotte*, which promotes complete glottal closure. By firmly adducting the arytenoids prior to phonation, singers set up the mechanism to produce an efficient tone. To teach this sensation, have the students sing the American "uh oh." This poses no risk to vocal health if done correctly. It may be undesirable during choral performance because it is challenging to coordinate among many singers, and at higher pitches, can create unnecessary tension. However, teaching this during group voice building is highly beneficial to the individual singers' voices. It ensures a firmer, clearer tone, and will undoubtedly result in a richer choral tone.

Reinforcing Garcia's *coup de la glotte* via staccato gestures will also encourage firm glottal closure since the folds must reengage with every note. For example: have the singers vocalize on a staccato /a/ vowel on scale degrees 1, 3, 5, 3, 1. A more advanced version for mature singers might utilize an /a/ vowel on scale degrees 1, 3, 5, 8, 8, 8, 8, 5, 3, 1. Listen for a firm phonation, continuous airflow, and pitch clarity. Once the staccati on these exercises exhibit clear phonation, have the singers sustain the top note (i.e., 1, 3, 5, 8, 8, 8, 8——, 5, 3, 1). This will begin transferring the firm phonation of the staccato exercises to their *sostenuto* singing.

Semi-occluded vocal tract ex-

ercises are used in many choral rehearsals but are underestimated in their ability to enhance singers' vocal growth. A semi-occluded vocal tract is defined as a partial obstruction of the vocal opening. These exercises include: humming, lip and tongue trills, voiced labiodental or bilabial fricatives such as /v/ or /β/, and singing through a straw. Cottrell states:

The acoustic benefits of a semi-occluded vocal tract are numerous: singers can achieve more acoustic output with less vocal effort; less pressure is required to initiate and sustain phonation; the vocal tract becomes highly "tuned," allowing greater opportunity to find the singer's formant; and there is a higher ratio of TA muscle activation to CT muscle activation.⁶

The physical benefits abound: it improves breath management from the greater resistance to breath flow; the habitual tensions in the tongue, lips, and jaw can be released; and the soft palate must be lifted.⁷ A direct application is to have the choir sing a phrase using a semi-occluded posture and immediately repeat it on the text. Choirs can also start a phrase with a semi-occluded exercise and then open to the text in the middle of the phrase; the resulting tone quality will be optimized in this established vocal tract configuration.

Tone quality is deemed "resonant" or "brilliant" when harmonic frequencies in the 2,500-3,500 Hz

range (aka the singer's formant) are reinforced.⁸ According to Cottrell, "in order for this type of brilliant tone to occur, singers must make adjustments to the vocal tract that include lowering the larynx, narrowing the epilarynx tube, widening the pharynx, slightly closing the mouth, keeping the soft palate raised, and perhaps most significantly, singing with firm glottal closure."⁹ These characteristics are best summed up by what Ingo Titze calls the "inverted megaphone shape."¹⁰ For classical and choral singing, this shape represents the ideal vocal tract configuration.

Contrarily, the "normal megaphone shape" consists of a raised larynx, a speech-like pharynx and epilarynx tube, and a wide-open mouth. It produces acoustic properties ideal for belting and other singing styles. To teach this concept, have the singers create a "peace sign" with both hands and put the tips of their fingers on the side of their faces by the wisdom teeth. The space between the fingers simulates a raised soft palate and a lowered larynx, while the smaller opening toward the center of the palm mirrors the slight closing of the mouth. Encourage the singers to experiment singing a phrase with this configuration. Then, have the students sing it the "wrong" way: flip the "peace sign" on their faces and sing with the normal megaphone shape so they can understand the difference in sensation.

The soft palate, the posterior area of the roof of the mouth behind the hard palate, acts as a valve that, when raised, closes off the nasal cavity and eliminates nasality from the sound. All vocal resonances are produced

in the oropharynx and oral cavity, so the quintessential *bel canto* voice avoids a nasalized tone through a consistently raised soft palate. Have the students pinch their nose and say "mom" to hear nasality and "dad" to feel the sensation of none. Master voice pedagogue William Vennard taught his students to pinch their nose while singing to check for a nasalized tone. Studies have shown that nasality in the voice introduces "antiresonances" into the acoustic spectrum.¹¹ These antiresonances cause a loss of intensity, vowel distortion, loss of carrying power in the voice, and significant loss of intensity in the singer's formant. Though the singer's formant is less prominent in choral singing, the acoustical antiresonances hinder the ensemble's blend—particularly in vowel intelligibility. Have the choir sing a phrase while pinching their nose *completely closed*; if the nose is fully shut off, the singers will instinctively adjust their technique in real time to produce a tone devoid of nasality.

There is inherent danger in using imagery to reinforce the optimal vocal tract configuration because each singer's perception of the ideal configuration differs. As Miller observed, "a major source of misunderstanding with regard to 'resonance' in singing stems from confusing the source of the sound with the sensation of the sound."¹² Thus, using imagery in choral rehearsals (e.g., "placing the tone" in specific locations of the face) may not produce correct physiological pedagogy. Instead, approach the correct vocal tract configuration through the speaking voice. Improving the speaking voice resonance can foster

a vibrant tone quality in the singing voice. If the singers require reinforcement of a low larynx, invite them to speak the text like a football stadium announcer. This will motivate their larynx to a more optimal position, increase the energy in their tone, encourage firm glottal closure, and ensure a well-supported breath flow. Use of the hands to palpate the thyroid cartilage will further supplement this concept. Once successful, invite them to transfer it into their singing voices. Of course, not all imagery is unwelcome; discretion and thoughtfulness will serve the singers well. By seeking this sonorous speaking voice, kinesthetic actions, and *carefully* chosen imagery, a choir director can fortify the low larynx, slightly closed mouth, and correct configuration of the pharynx and epipharynx to produce healthful singing full of resonance.

Choral Blend

The most distinctive aspect of choral singing from solo singing is the concept of choral blend. The key to exceptional blend lies in the vowels. Vowels must first be correct, then unified. Be aware that vowel modification is necessary for sopranos in the upper extremes of their range. Their vowels should gravitate toward an /a/ with a dropped jaw. Allowing the singers to modify too soon, however, will diminish a vowel's definition, shape, and resonance, and, thus, dismantle choral blend.

Placement of singers affects vocal unification as well. A singer who has a dark and dramatic voice placed next to another equally dark and dramatic voice may not work well

because their voices may “argue.” Voice placement, an optimal arrangement where singers are placed next to others with a complementing tone quality, should be done as soon as possible. This aids choral blend early on in the ensemble’s development. The more dramatic voice, placed next to “flute” voices (lighter, blendable, and clear) will encourage the “flute” voices to sing out with more confidence, and offer the more dramatic voice the space to sing freely without feeling hindered by a similar, competing voice.

A downside to an emphasis on choral blend results in students who withhold their singing voices to refrain from sticking out. Adolescent females constitute the largest group of those who would withhold their singing voices “in case they sang something incorrectly.”¹³ However, these same students stated that they sang out confidently in a different setting (at home or the bus, for example) because they felt no pressure to sound a certain way. Solo-type projection lies on the other extreme end of the spectrum. This is inappropriate since it results in individual voices standing out from the choir.

A solution for these extremes exists. The main requirements for choral blend, aside from unified vowels, are: the ability to hear oneself and others well, an efficient and effective singing ability, and individual listening skills to make appropriate self-corrections. Space around each singer lets them use their mechanism freely and hear themselves and their neighbors. Circumambient spacing—spacing singers twenty-four inches apart laterally with a vacant row between them—proves to be

the ideal space for improved hearing of oneself and the ensemble.¹⁴ This spacing is a scaled-down version of our social distancing safety protocols during COVID-19 and will continue to benefit the ensemble blend.

Circumambient spacing may initially lead to solo-type projection. Knowing that the unbridled strength in an individual’s singer’s formant will cause that individual to stand out, development of listening skills allows them to make self-corrections to temper their singer’s formant. Titze supports this by adding that “the ear drives the blend more than overt manipulation of the larynx or articulators.”¹⁵ The verbiage “sing-

ing within the sleeve of the section’s sound” or “activate your listening” encourages this heightened listening. Though choral blend can quickly be accomplished through straight tone singing, this will produce deficient vocal technique in the singers.

Musical Acuity

Robert Shaw is famous for stating, “The right note at the wrong time is the wrong note.” This quote exemplified much of his defining qualities as a world-renowned conductor. His strive for musical acuity should be shared in the develop-

Why pay through the nose for a singing mask?

Our 3D singer’s mask is ASTM certified and only about \$1 (or less).

Some masks cost up to \$40, and project so far out that you can’t see your music. Our 3D singer’s mask is all-day comfortable, ASTM Level 3 certified (≥98%) and has negligible effect on sound quality. With three layers and melt-blown polypropylene filtration, just \$5.95 for five or \$49.95 for 50. Even less for more. Why pay an arm and a leg? **Order toll-free today: 1.877.246.7253**

MUSICFOLDER.com
The world’s best music folders. Since 1993.

ment of all choral singers. Often, the misplaced note Shaw referred to in his quote resulted from a consonant not being placed ahead of the beat, or the onset of breath being too relaxed.¹⁶ In both cases, the vowel sound is late. By encouraging the singers to breathe *rhythmically*, the onset will be more precise. This rhythmic treatment of text produces a precision of releases, and, thus, an opportunity for well-prepared breaths for subsequent phrases. The resulting choral sound will be drastically impacted. Ann Howard Jones eloquently expresses this sentiment: “The more precise the ensemble

rhythm, the more concentrated the sound. The more rhythmically precise the vowel and pitch, the more convincing the sound.”¹⁷

Model and Gesture

One’s awareness of posture and conducting gestures could positively influence the singers’ vocal technique. Good postural mechanics from the conductor engages mirror neurons in the singers that motivate them to embody the conductor’s posture. Jones suggests that conductors: “Be centered... Keep your torso long, not collapsed... Convey en-

ergy [and] buoyancy in your body... Monitor tension in your head, mouth, neck, face, hands. Eliminate it if you can.”¹⁸ A study of Alexander technique would be tremendously beneficial for the conductor and the singers. Even more importantly, a conductor’s gesture directly affects the singers’ voices. The most common fault for many conductors is conducting in the high, vertical plane. The height and focus of this gesture engenders clavicular breathing—ignoring the contribution of the diaphragm to a well-supported breath. The solution is to conduct in the lower plane near the abdo-

sheetmusicplus.com/choir2021

SEIZE THE MUSIC

sheetmusicplus

The World's Largest Selection of Sheet Music

men, what the author refers to as the “breath circle.” This activates the diaphragm during inspiration. Additionally, preparatory gestures should be fluid and predictable so that the breath can be organic; cut-offs should not be abrupt; and the gesture should embody breath flow and harness horizontal space to encourage line in the voice. Constant awareness in one’s posture and gesture provides an optimal environment where the singers’ vocal development can burgeon.

Each singer enters the choral rehearsal at a different point in their vocal journey, and each one progresses at a different rate. As choir directors pour their hearts, energy, and souls into their students, it is wise for each director to constantly check their pedagogical ideas—and words they use to express them—with a voice teacher colleague. With this colleague, ask for aid to make one’s language more precise. In doing so, the choral director will begin to share a similar language with the voice professional, and the students will refine their technique in both voice lessons and choir rehearsals. Additionally, because many students are taught simultaneously in an ensemble setting, by revamping one’s nomenclature, one will be able to foster understanding in more students through an evolving language.

Conclusion

Singers’ vocal development in a choral ensemble starts with the director’s clear understanding of technique, rooted in a scientific

understanding of the mechanism and supported by historical pedagogy. These seven essentials form a foundation for the singers’ vocal growth: the choral warm-up, posture, breathing and support, tone, choral blend, musical acuity, and the conductor’s model/gesture. By understanding these integral concepts, each singer can be emboldened toward healthful singing and vocal growth every time they walk into a choral rehearsal. **□**

Francis Cathlina is the visiting director of choral activities and assistant professor at the University of Memphis.
franciscathlina@gmail.com

Additional Resources

Cottrell, Duane. “Support or Resistance? Examining Breathing Techniques in Choral Singing.” *Choral Journal* 50, no. 9 (2010): 53-59.

Fett, Darlene Louise. “The Adolescent Female Voice: The Effect of Vocal Skills Instruction on Measures of Singing Performance and Breath Management.” PhD diss., The University of Iowa, 1993.

Freer, Patrick K. “Choral Warm-Ups for Changing Adolescent Voices.” *Music Educators Journal* 95, no. 3 (2009): 57-62.

Gackle, Lynne. “Finding Ophelia’s Voice: The Female Voice during Adolescence.” *Choral Journal* 47, no. 5 (2006): 28-37.

Gebhardt, Rianne Marcum. “The Adolescent Singing Voice in the 21st Century: Vocal Health and Pedagogy Promoting Vocal Health.” DMA diss., The Ohio State University, 2016.

NOTES

¹Cottrell, “Vocal Pedagogy in the Choral Rehearsal,” in *The Oxford Handbook of Choral Pedagogy*, ed. Frank Abrahams and Paul D. Head, (New York: Oxford University Press, 2017), 506.

² Ibid., 508.

³ Ibid., 492.

⁴ Ibid., 495.

⁵ Ibid., 494.

⁶ Ibid., 498.

⁷ Ibid.

⁸ Ibid., 509.

⁹ Ibid.

¹⁰ Ibid., 510.

¹¹ Ibid., 511.

¹² Ibid., 513.

¹³Bridget Sweet, “The Adolescent Female Voice,” *Journal of Research in Music Education* 63, no. 1 (2015), 81.

¹⁴James F. Daugherty, “Spacing, Formation, and Choral Sound: Preferences and Perceptions of Auditors and Choristers,” *Journal of Research in Music Education* 47, no. 3 (Autumn 1999): 236.

¹⁵Ingo R. Titze, “Getting the Most from the Vocal Instrument in a Choral Setting,” *Choral Journal* 49, no. 5: 40.

¹⁶Ann Howard Jones, “Voice Training in the Choral Rehearsal,” *Choral Journal* 49, no. 5 (2008): 14.

¹⁷ Ibid., 14-15.

¹⁸ Ibid., 12.