

## **E pluribus unum: Training the individual voice in the choral rehearsal**

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### **Posture/Breath:**

The traditional Italian school of singing refers to the concept of breath management within a complex of posture, breath and resonance factors, termed the *appoggio*. The word is loosely translated as “support,” but more specifically means, “to lean upon.”

The *appoggio* technique in breath management is built first upon postural elements. The sternum must find a moderately high position. This high position helps maintain an expanded rib cage. The sternum should not descend during singing.

Shirlee Emmons and Constance Chase state, “to the old Italian voice teachers, a breath *appoggio* signified a *feeling of leaning the air against the sternum from the inside*, accompanied by expanded ribs. Actually when a singer keeps a high sternum, expanded ribs will come along as part of the package....

“The *appoggio* technique avoids the rapid collapse of normal speech by retarding the ascent of the diaphragm. This allows subglottal pressure to remain steady during phonation and creates a stabilizing effect that leads to fewer intonation problems and a seemingly longer air supply.” (Emmons and Chase, 19)

### How to teach *appoggio*:

From Emmons and Chase:

1. Raise arms above the head. Lower the arms and shoulders, leaving as is the ribs (expanded) and sternum (high). This is the *appoggio* [posture] that should be kept at all times.
2. Pretend that the underside of each shoulder blade is fitted with a magnet. Imagine the two magnets straining to touch each other. The sternum then is high; the shoulders low, and the ribs out. This is the ideal *appoggio* that should be maintained.
3. Vigorously “slurp” the air in, allowing the effort to make a loud vulgar noise. This effect forces the ribs to make the requisite sideways movement to full expansion, with no concomitant raising of the shoulders and no concern about the abdominals. It will seem much like forcibly pulling liquid in through a straw. The noisy slurp facilitates singers’ recognition of the correct rib action. Shortly after learning the technique, the noise can be abandoned.

“...As for the inhalation, the air is taken in with what might be called a sideways, rather than an up-and-down, movement.” (Emmons and Chase, 20)

Richard Miller suggests the following breath exercises for teaching the supported singing voice:

### Exercise 2.3: The “Farinelli Exercise”

Inhale while mentally counting from 1 to 5 at a moderate tempo, maintaining absolute silence. Keep precise rhythm by tapping a finger or pencil. A metronome also may be helpful.

Lips should be parted throughout the three parts of the exercise. Complete but unforced expansion of the ribs and the muscles of the umbilical-epigastric area and of the Lumbar area should be realized.

Suspend the breath without any sensation of holding it (glottis remains open), without any muscular tension in either the vocal tract or the torso. The position of the rib cage and the abdominal wall is retained while silently counting from 1 to 5 at the original tempo.

Exhale silently, maintaining as far as is possible the same posture of sternum and rib cage, counting 1 to 5. There should be rhythmic continuity between the three phases of the exercise (inhalation, suspension, and exhalation). Immediately following completion of the three-part breath cycle of 1 through 5, move without pause to a cycle of 1 through 6, passing through the three successive phases of the exercise; in this fashion, increase the numbers until 9, 10 or perhaps 12 counts have been achieved. (Miller, *The Structure of Singing*, 31)

#### Exercise 2.4: Prolongation of the sibilant [s]:

Control of muscles of the torso during exhalation can be gained by the use of the prolonged sibilant [s]. Sound is introduced, but sustained pitch is not. A “noble” chest posture should first be established. Following silent inspiration, breath is exhaled very slowly while sustaining a constant sibilant noise. *The sound should be barely audible.*

One hand is placed on the epigastric-umbilical region, the other hand on the Flanks just below the rib cage. The abdominal wall gives no initial inward impulse nor does it move inward during the exercise until the last few seconds. The aim of the exercise is to maintain the rib cage and the abdominal wall near to the inspiratory position throughout most of the exercise. Eventually the abdomen must move inward, at the close of the expiration, but the rib cage remains longer in the posture of inspiration, and the sternum does not lower. (Miller, *The Structure of Singing*, 32)

#### **Phonation—Onset/Release of Tone:**

Richard Miller asserts: “Nothing in technical accomplishment in singing is more beneficial to the vocal instrument than the proper positioning of the vocal folds for the clean onset.” (Miller, *The Structure of Singing*, 7)

The onset exercises that he advocates in *The Structure of Singing* provide a very important foundation to his whole pedagogy. Dr. Miller also introduces these exercises in his article, “Acknowledging an Indebtedness” in the November 2008 *Choral Journal*.

Here is an example of an expansion of the onset exercise. Dr. Miller first starts with the quarter note alone, moving next to the eighth note, then the triplet and so on. This expansion shows all of the note values in one exercise.

The image shows two staves of musical notation in treble clef with a common time signature (C). The first staff contains four measures: the first measure has four quarter notes with accents; the second measure has eight eighth notes with accents; the third measure has four groups of eighth notes beamed together, each marked with a '3' above it, indicating triplets; the fourth measure has four groups of eighth notes beamed together, each marked with a '3' above it, indicating triplets. Below the first staff is the text "[on any text]". The second staff contains four measures of eighth notes beamed together, followed by a whole note.

Voice scientist, Ingo Titze, encourages the use of a small stirring straw to help free the voice and to encourage efficient vocalism. A video demonstration is available at:

<http://www.youtube.com/watch?v=asDg7T-WT-0>

### **The Resonant Voice:**

What are the goals of teaching resonance? What is meant by the term placement? How can we teach “placement” in a clear way to singers?

Richard Miller: “Much of the problem with “placement” terminology in singing is that singers attempt physical actions which they assume will produce certain desirable “resonance” results, but which have other functional ramifications. In trying to “place” sound, they falsely adjust parts of the vocal tract, thereby hampering flexibility.” (Miller, *Structure of Singing*, 88)

Miller also cautions against the unclear terminology, “open the throat,” and the use of the yawn as a method of teaching the “open throat.”

“The pharynx is accustomed to sensations of distention, largely through the normal and beneficial actions of the yawn. In describing the yawn, we use language suggesting relaxation. We feel that the throat has widened, we can see in the mirror that the soft palate is high with the uvula elevated, we notice that the tongue lies low and flat, all producing a sensation of ‘openness.’ In yawning, we see the larynx lower and the jaw hang. Surely, one might think, this is the position of ‘the open throat.’ Some singers do believe erroneously that in the widest pharyngeal distention, in laryngeal depression and velar elevation (all present in a hearty yawn), we are near the optimum position for singing. This claim must be considered with regard to the interrelationships of the resonating cavities, to vowel formation and differentiation, to the articulation of consonants, and to muscle activity...

“Throat tension inherent in the yawn can be verified externally by placing the fingers flat under the jaw between the chin and the larynx. This tension can also be internally felt, and externally seen, in singers who believe they have ‘opened the throat’...

“The yawn, which produces pharyngeal enlargement and laryngeal depression, plays no part in those joyous moments of life; it has no role in active athletic movement, and it is not part of the imaginative, alert, creative moments of daily life. Why then assume a need for the yawn in singing when the open throat can be accomplished in singing by the same means as in other heightened situations in life? The yawn is an action that belongs to the tired, to the bored, an attitude of the weary spirit and body.” (Miller, *Structure of Singing*, 58-60)

### Exercises to cultivate the resonant voice:

Miller, “One of the best ways to develop good acoustic function in resonator adjustment is through the use of the nasal continuants. [m, n, ŋ, ŋ].” (Miller, *Structure of Singing*, 88)

Exercise 4.2 and 4.3

Establish the “noble” posture; breathe through the nose as though inhaling the fragrance of a rose and hum the pattern in several keys of easy range. Be certain that the hum is produced without tension in the tongue, the velum, or the jaw. Strum the lips lightly and quickly a few times with the forefinger. Unless a distinct “mum-mum-mum” results, the proper neutral posture of the articulatory mechanism is not present. After singing this exercise on the hum, add a vowel that will follow the triad without interruption. (Miller, *Structure of Singing*, 62)

**The Well-balanced Vowel (discussions of specific vowels, see Emmons and Chase, 71-73):**

*But the tongue can no man tame; it is an unruly evil full of deadly poison*

--James 3:8

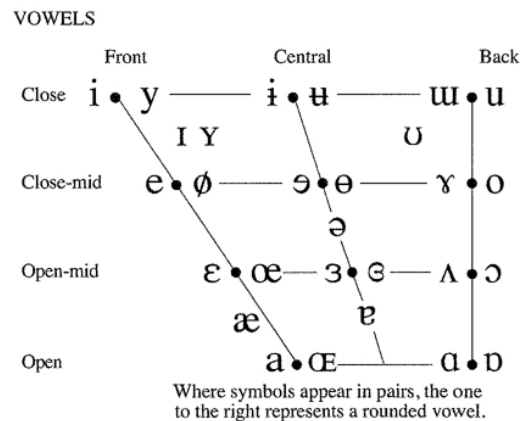
*A singer who keeps a large mouth opening all the time will be wrong about 50 percent of the time. A singer who keeps a small mouth opening all the time will also be wrong about 50 percent of the time. The trick is to know when to open a little or a lot.*

--Shirlee Emmons and Constance Chase, 132

Teaching the mechanics of a well-balanced vowel is essential to helping the individual singer build consistency in vocalism. Here are some descriptions of important vowels that are commonly used in vocal music. This list is merely introductory. IPA symbols are used. Ideas on how to teach each vowel are included.

One of the challenges to teaching the individual voice in the rehearsal is finding a way to help the singer get feedback on his/her own sound while singing with others. A way to help singers hear themselves within the ensemble is to have each singer bring slightly-cupped hands to shoulder height by completely bending the elbows. The tips of the fingers should be pointing up. Bring the hands up slightly so that the tips of the fingers are at about ear height with the wrist about shoulder height. In this position have students make a sustained sound while rotating the forearm. They will find that there will be places where the hands direct sound back to their ears. Have students experiment to find the place where they can hear themselves.

Once the singers have found a feedback placement for the hands, have them whisper through vowels to hear the actual mouth shape. After tuning the whispered vowel have singers sing the vowel on a comfortable pitch.



### Neutral vowels:

[ʌ]: *up, shut, numb, blood, trouble, among*. This vowel is the most neutral vowel. The tongue is central in the mouth without a rise in the front or the back of the tongue. It is manifest in a groan, in a sigh and in the “uh” of nervous speech. A relaxed slow breath through the nose will induce this posture in the tongue.

[ɜ]: *earth, curl, shirt, girl, verse*. This vowel is used to keep a pure vowel sound in syllables with an *r* without using an American [r]. Move from an [o] to an [ɜ] while maintaining the former lip posture. The tip of the tongue should stay in contact with the lower teeth.

Front vowels: Pronounce the series [i, I, e, ε, ə] to explore the acoustic space as one moves from the most front vowel to the more central vowels.

[i]: *pizza, he, creep, sheen, leader, secret*. The front of the tongue is arched forward, nearly to the hard palate. The tip of the tongue is on the back of the lower teeth. The sides of the tongue are touching the upper fourth tooth on either side. The lips are not rounded, nor are they spread.

Richard Miller states: “In the vowel [i], total resonator space has not been diminished, but rearranged...Because of the nature of front cavity shape, tongue posture, and increased pharyngeal room, the vowel [i] is useful in developing the full timbre of the voice. *It should be noted that a number of researchers comment that soft palate elevation is higher in [i] than in any other vowel.*”

[I]: *sit, miss, flimsy, pickle, inward*. Let the center of the tongue (blade) descend slightly from the higher [i] position. The jaw will relax slightly from the [i] position. Practice singing a single tone or a scalar pattern alternating between the words *heed* and *hid*.

[e]: *late, paste, chaos, favor, nature*. Sensations resulting from the distribution of buccal space found in the vowel [i] can be felt in singing [e]. However, most singers are aware of the increased lateral contact of the tongue with the teeth on [e]. A slightly lower jaw posture than in [i], and the wider shape to the oral cavity, result in more frontal spaciousness in [e] than in [i]. *This vowel is recommended by Emmons and Chase as a modification for all front vowels when moving through the passaggio.* To help students find the [e] vowel have them sing exercises on [je]. The glide [j] begins in the posture for [i] and then glides to [e].

[ε]: *them, red, bed, said, heaven*. Let the center of the tongue (blade) descend slightly from the higher [e] position. Use the syllable [jε] also with this vowel. Practice singing a single tone or a scalar pattern alternating between the words *mane* and *men*.

### Back vowels:

[u]: *clue, shoot, mood, tomb, threw*. Tongue tip is down. The back of the tongue is elevated leaving little space between the tongue and the soft palate. This vowel is the opposite of [i]. With [i] the greatest space is behind the tongue. With [u] the greatest space is in the forward part of the mouth. A good exercise is to have singers say “boo” as if they were playing with a small child.

[ʊ]: *foot, book, push, could, cushion*. The back of the tongue is raised, but lower than [u]. This vowel is recommended by Emmons and Chase as a modification for all back vowels when moving through the passagio. To find this vowel sing [u] and drop the jaw slightly. Keep the lips rounded. Sing alternations of *Luke and look*.

[o]: *coat, soak, hole, snow*. Watch out for the [ou] diphthong in American English. Sing a [u] vowel and then drop the jaw to an [o]. Notice the tubular feel of the vocal tract. Have students try to swallow the [o] sound to show the artificial (undesirable) nature of a sound that has a depressed tongue back. Use the syllables [bo] or [po] to practice the mouth shapes for [o].

[ɔ]: *awl, tall, shawl, naught, laud*. This vowel is difficult for Americans because it is often indistinguishable from the vowel [ɑ] in many colloquial speech patterns. The vowel requires buccal rounding. The jaw is slightly less open in [ɔ] than in [ɑ]. Practice moving between [e] and [o] on a single pitch. Then have singers move between [ɛ] and [ɔ].

[ɑ]: *father, God, mama, shout*. Drop the jaw and keep the tongue blade low in the mouth with the front flattened. This vowel has many regional versions in America. In terms of mouth opening, this vowel is the farthest removed from the [ʌ] vowel. The attraction of this vowel “lies in its avoidance of tongue constriction of the vocal tract...In any technique of singing, if other vowels are less comfortable in execution than the vowel [ɑ], articulatory flexibility is lacking.” (Miller, *The Structure of Singing*, 71) Use nasal consonants [m] and [ŋ] to help find a well-balanced [ɑ].

#### Exercises for vowel balancing and differentiation:

Richard Miller suggests the following:

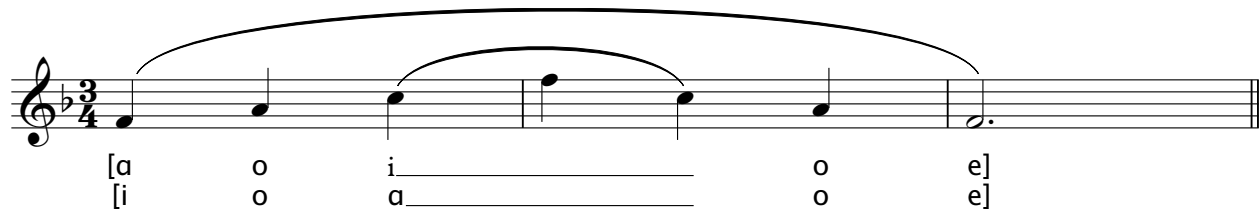
(A) [ɑ, o, i, o, e]

(B) [i, o, ɑ, o, e]

(1) Pronounce these two patterns alternately, at normal speech level, in legato fashion, allowing lips and jaw to move naturally, without exaggeration. (2) There should be no attempt to hold one position of lips, jaw, tongue, or mouth. (3) No attempt should be made to differentiate the vowels by excessively mouthing or shaping them. (4) Observe the limited but discernable movement of the mouth as the vowels are articulated. (5) Increase tempo so that the vowels must be quickly enunciated, but avoid slurring or transition sounds. The same articulation occurs, regardless of speed.

Perform the same patterns on a major or minor triad arpeggio:

[ɑ o i o e]  
[i o ɑ o e]



### Some Thoughts on Consonants<sup>1</sup>:

Understanding the physiology of efficiently executed consonants can be a valuable tool in prescribing specific solutions to perceived problems in the rehearsal. The following is a list of consonants and some suggestions for their use, as recommended by Richard Miller in *The Structure of Singing*:

[j]: This is a fine “pilot sound” to help singers maintain a sense of “focus” or “resonance” on back vowels such as [u]. Have singers sing the combination [ju] (as in *you*).

[l]: “When properly executed, [l] is one of the most favorable consonants for achieving facile tongue action, the key to good articulation...The continuant [l] should be executed with a light flick of the tongue; following the production of [l], the tongue should quickly return to the position of phonetic rest, with absolutely no transition sounds permitted.” Repeat a pattern of la-la-la-la-la beginning at a slow tempo and then increasing to a faster tempo.

[r] (frontal trilled r): “The tongue point trill is one of the most important of all technical devices for inducing looseness of the tongue *at both its frontal and its hyoidal extremities.*” Use the trilled [r] on scalar passages much like you would on lip-buzz exercises.

[v] and [f]: “Singers learn a great deal about the process of resonator coupling when [v] precedes vowels. That mouth position, with parted lips, closely resembles the posture associated with pleasure and repose. The physical location of [v] encourages sensations in the *masque* area of the face.” Miller suggests using the syllables [vi-ve-va-vo-vu] or [fi-fe-fa-fo-fu] in recitation and on alternating thirds. Vocalizing a melody on the sustained [v] can be a fine method of relaxation for the phonatory muscles; it encourages efficient vibration of the vocal folds while providing resistance at the mouth.

[b] and [p]: “Silently form the lips in position for the production of [b], being conscious of buccopharyngeal space.” This consonant helps singers feel space in the mouth. It can also be helpful in reigning in the lips of singer who sing the front vowels with an overly lateral lip posture.

[z] and [s]: “The consonants [z] and [s] are especially useful in correcting hollow and unfocused vocal quality.” Vocalize a scalar pattern on [z]. Notice the character of the consonant and the natural relaxed posture of the lips.

[ð] and [θ] (voiced and unvoiced “th”): “Through exercises involving this consonant, the singer becomes aware of the desirable balances among buccal, nasal, and pharyngeal resonators...The advantage of prefacing a vowel sound with the unvoiced [θ] is that it encourages a loose glottis

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<sup>1</sup> The discussion on consonants is taken from Chapter 7 of Richard Miller’s *Structure of Singing*. All passages in quotes are direct quotes from this very important source.

and a narrow buccal aperture, and it helps in releasing tension with some singers who make use of subglottic pressure and who distend the jaw.

[g] and [k]: “Air, when finally released from the stoppage involved in the consonant [g], explodes directly into the buccal cavity, producing a condition of openness in the channel between the oropharynx and the oral cavity. The sensation from that event is very distinct and extremely useful. When a singer habitually suffers from a lowered velar posture, with resultant nasality and thinness of quality, the use of [g] can prove to be a valuable antidote. Even when such faults are not present, [g] has great worth as a conditioner of proper resonance balancing.” The words “big goat” or “sick cat” are helpful examples of these consonants. Speak or sing the words, lingering on the [g] or [k] sound to teach the feeling of these two consonants. Place the consonants before vowels sung in alternation on two different pitches.

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