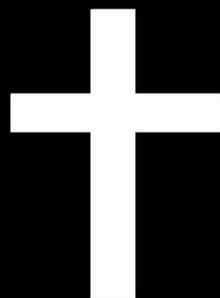


# Improving Vocal Resonance and Choral Tone with Vowel Modification

WELS WORSHIP CONFERENCE  
2014



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“Each one should use whatever gift he has received to serve others, faithfully administering God's grace in it's various forms.....If anyone serves, he should do it with the strength God provides, so that in all things God may be praised through Jesus Christ. To Him be the glory and the power for ever and ever.  
Amen.”

- I Peter 4:10-11

# Professional Background

- Private Voice Teacher, Manitowoc Lutheran High School
- Former WELS Choir Director and Teacher, Arizona Lutheran Academy, Huron Valley Lutheran High School, St. Croix Lutheran High School
- K-8 Music Teacher, First German Lutheran School, Manitowoc, Wisconsin
- National Association of Teachers of Singing (NATS)
- Music Coordinator, Pathways to Christ Women's Retreat
- Martin Luther College, 1996
- Arizona State University, Voice Performance/Choral-General Music

# God's Calling In My Life

*I teach singing.*

*Good, free, balanced “natural” technique.  
Each student I teach provides an opportunity  
to continue to learn how best to serve both  
them and most importantly the Lord.*

*Sacred songs, lieder, opera, jazz, music  
theater, hip-hop, folk, singer/songwriters all  
have a place in my studio  
(and should be welcome in the studio of any  
qualified singing teacher.)*

**TO GOD ALONE BE THE GLORY!**

# Song Teachers vs. Voice Teachers

One method of looking at teaching style is to consider if.....

One's focus is on product

*OR*

On both process and product.

A **SONG** teacher has the student learn to sing songs with a melody cd made by the teacher, or often by singing along with the student. This teacher may do a few warm-ups, but adds nothing further technically. Over a period of time, the student has learned few vocal technique skills or music fundamentals. The **SONG** teacher is often someone who sings, but does not have the proper credentials or motivation to be a quality voice teacher.

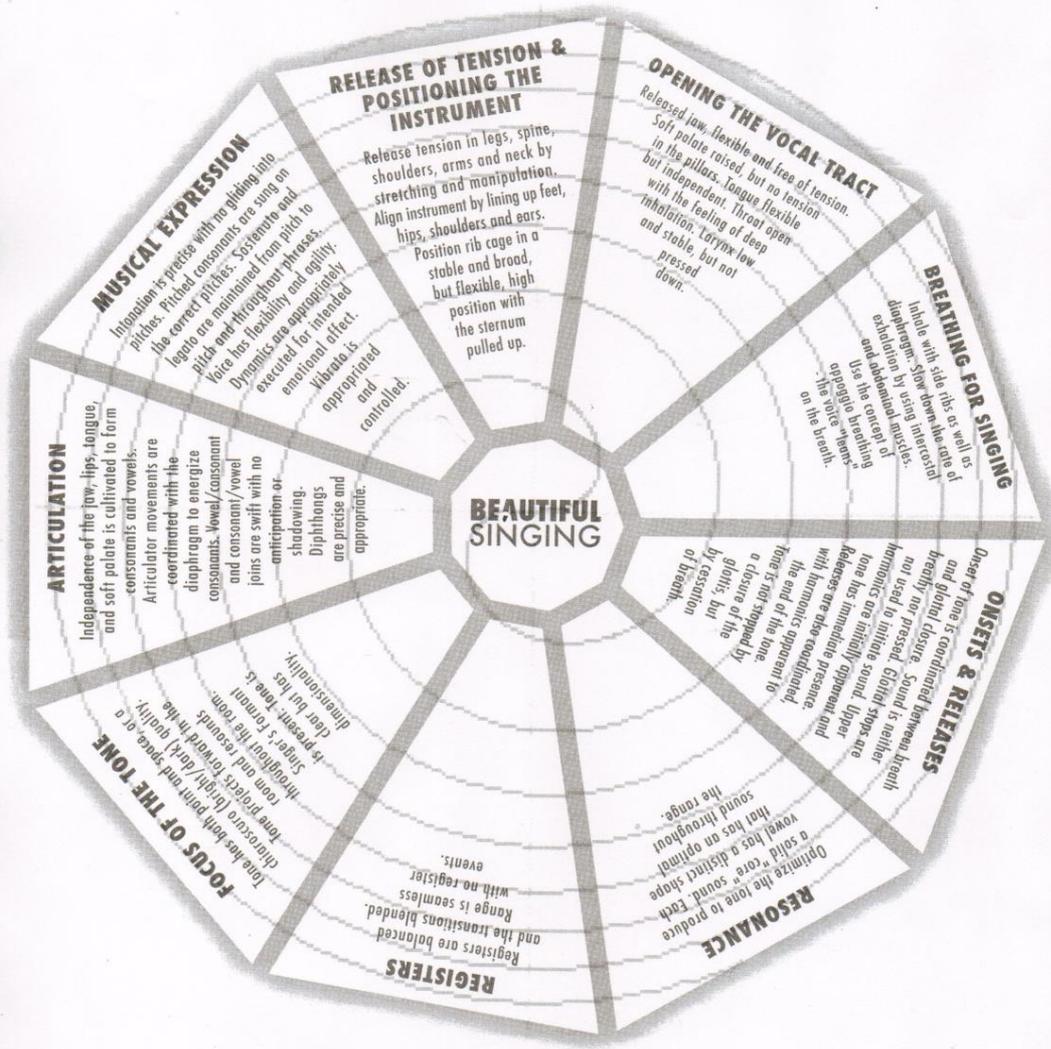
# Song Teachers vs. Voice Teachers

The VOICE teacher teaches vocal refinement, technique, and all the skills necessary to make students better musicians, with the ultimate goal of having individuals who are capable of teaching themselves.

“To those students who are in search of a teacher—find a teacher who will teach you to teach yourself.”

“Natural” technique utilizes the best of all vocal methods available to find a balance in the “Spiral of Singing”

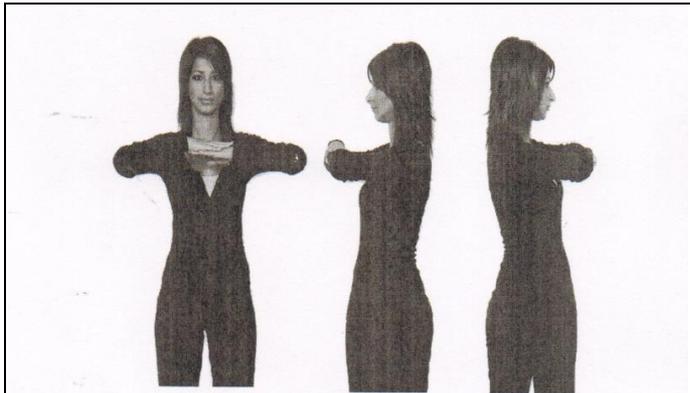
# Spiral of Singing



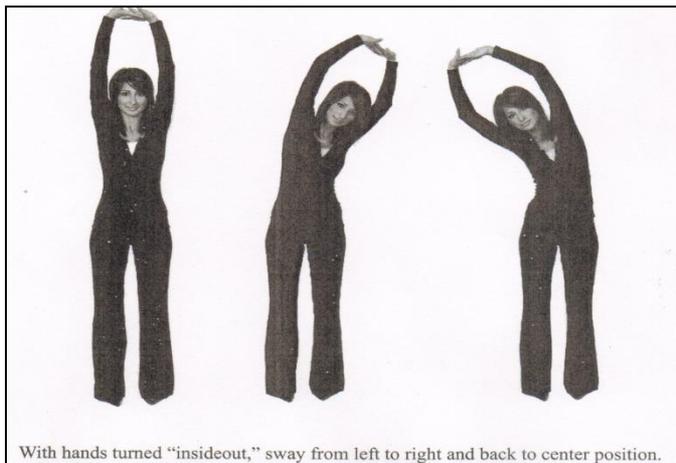
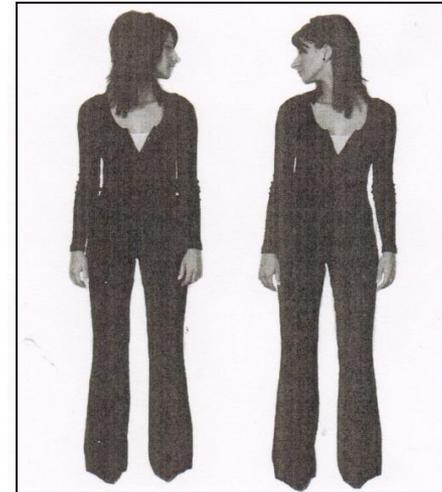
- Release of tension & positioning of instrument
- Breathing for Singing
- Releases and Onsets
- Opening the Vocal Tract
- Registers
- Focus the Tone
- Resonance
- Articulation
- Musical Expression

# Some Stretches That Are Recommended At Each Rehearsal

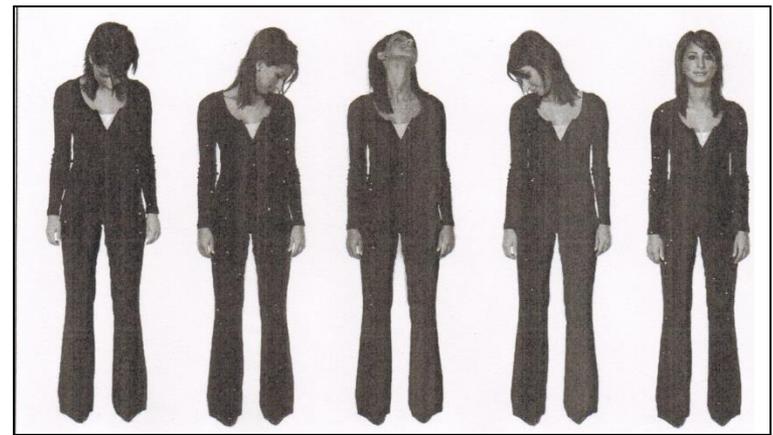
ALWAYS ALLOW FOUR MINUTES FOR STRETCHING/RELEASING TENSION



Stretch to release tension in the spine. Be sure to keep elbows at shoulder level.



With hands turned "insideout," sway from left to right and back to center position.



# Additional Recommended Stretches

## Rag Doll Stretch



Hang down with hands touching floor if possible. Inhale through your nose, exhale through your mouth three times. As you roll up to a standing position, inhale through your nose the whole way. It rushes warm moist air into the nasopharynx area and helps with the warm-up process.

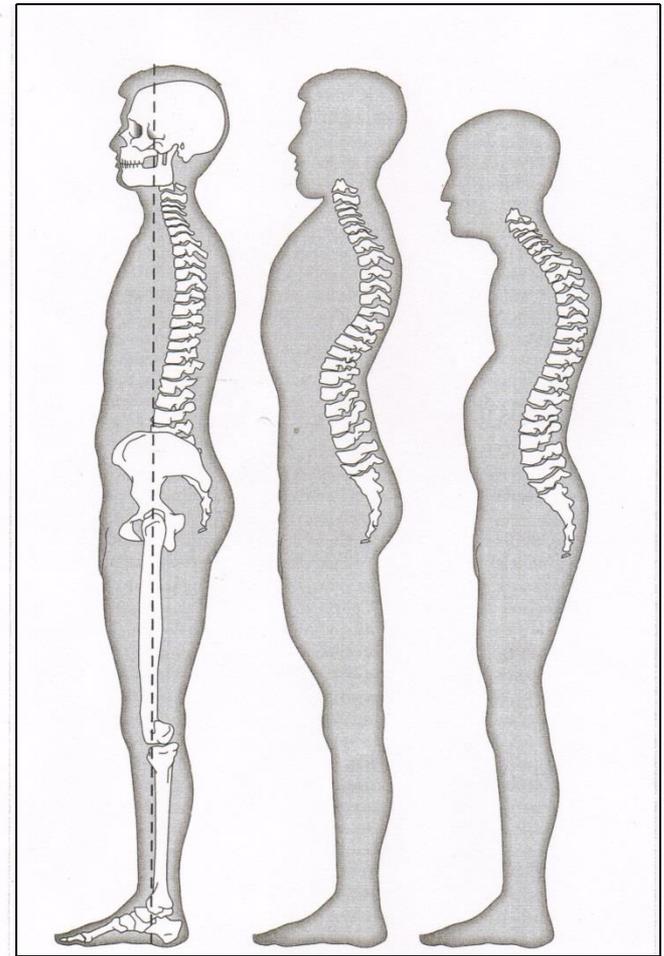


## Chest Stretches

Place one hand over the other with elbows at shoulder height. Remaining at this height with the arms, pull hands apart until they are parallel to each other (pointing forward) and then release them back to original position. Repeat this stretch for a total of four times and then release hands comfortably down by your sides.

# Release of Tension and Positioning The Instrument

- Release tension in legs, spine, shoulders, arms and neck by stretching and manipulation.
- Align instrument by lining up feet, hips, shoulders and ears.
- Position rib cage in a stable and broad, but flexible, high position with the sternum pulled up.



# Alignment Issues/Recommendations

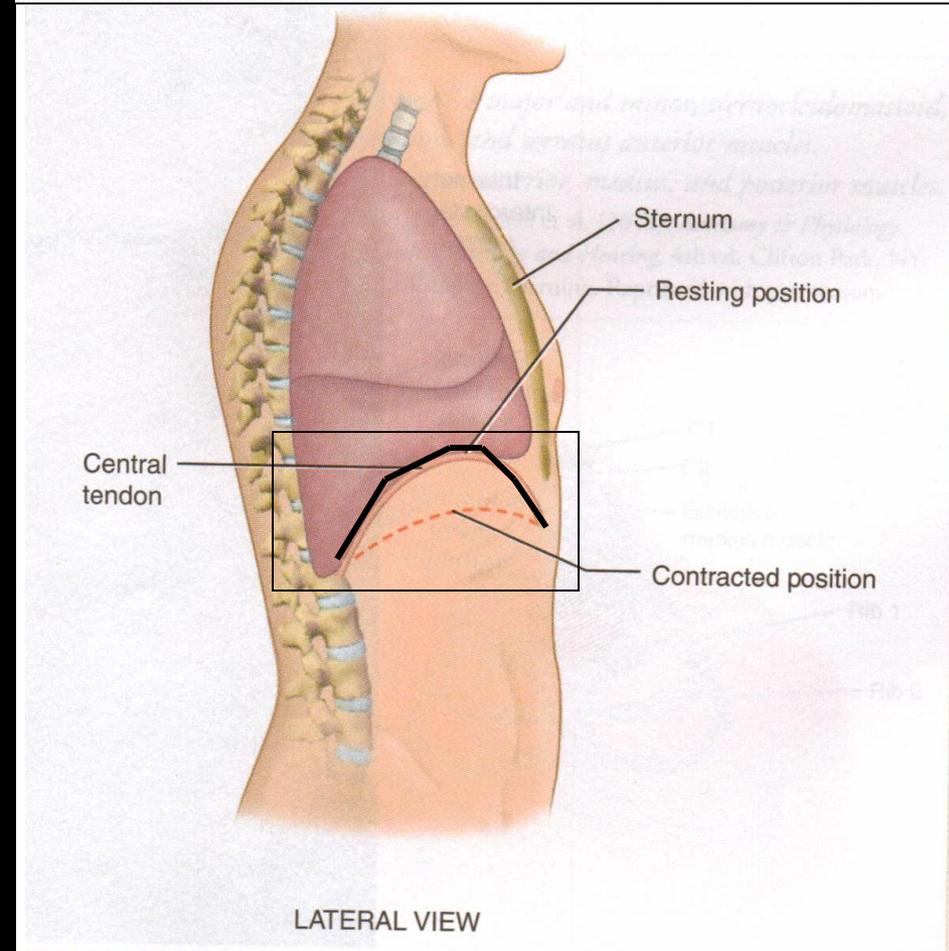
- A slumping posture definitely puts inappropriate pressure on the larynx, directly changing the quality of the speaking and singing voice.
- Most voice professionals will understand the importance of upright posture, which *enables the larynx to find its ideal suspension in the throat.*
- “Think Up” – we want to be able to use our full height as we sing or speak, without collapsing down into the pelvis. *“Think” about your head releasing away from the tailbone.*

# Breathing For Singing

- Inhale with side ribs as well as diaphragm. (release or allowing the breath to return)
- Slow down the rate of exhalation by using intercostal and abdominal muscles.
- Use the concept of appoggio breathing – the voice “leans” on the breath – or sometimes known as supported by the breath.

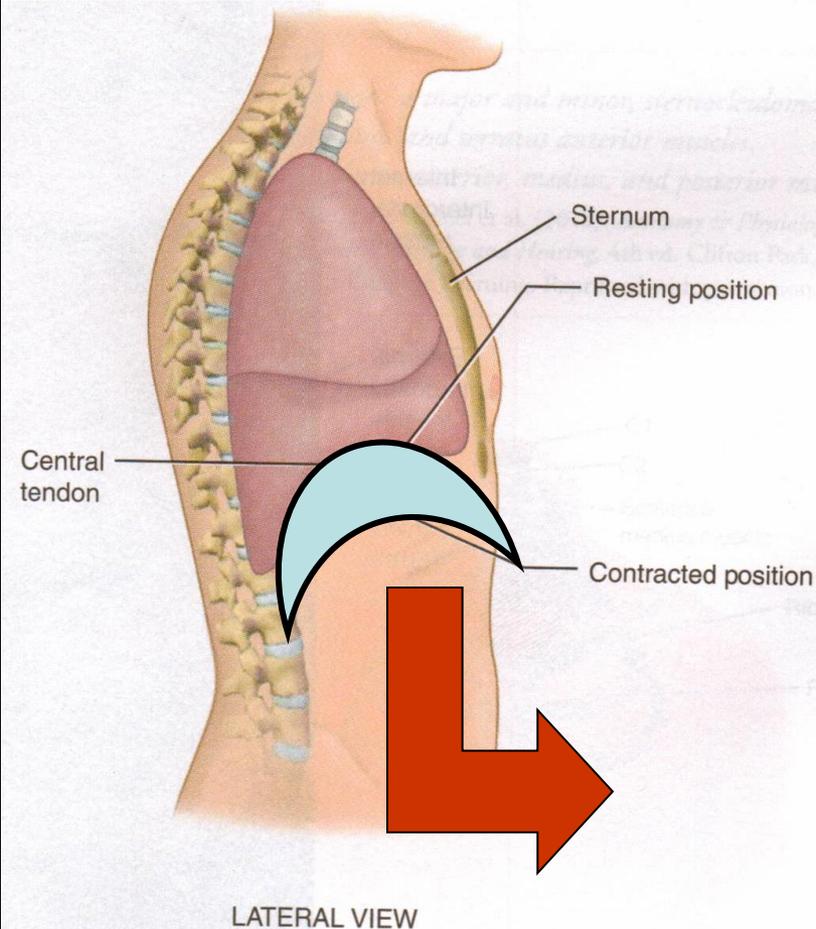
# Diaphragmatic Costal-Breathing

- **Diaphragm separates thorax from abdomen.**
- **At rest, or at the end of exhalation, it nestles up inside your ribcage, attaching at the spine, sternum and the bottom ribs, creating a tight seal between your chest and abdomen.**
- **Your lungs rest right on top of it and will move when your diaphragm moves.**



# Diaphragmatic Costal-Breathing

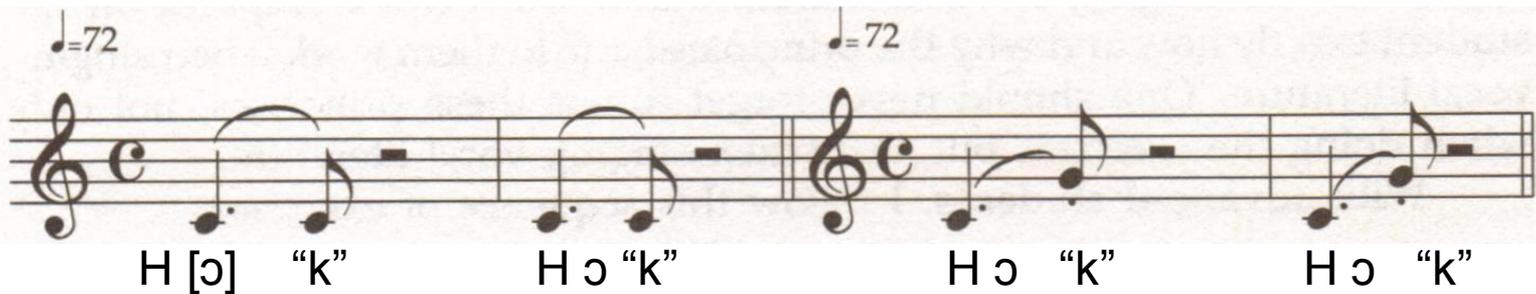
- **When your diaphragm contracts, it flattens out.**
- **The flattening creates a vacuum in your chest which in turn allows air to come in through your open vocal tract and fill your lungs.**
- **As a result the diaphragm pushes against your abdominal organs and you will feel them move out.**
- **This is referred to as a “release.”**



# Diaphragmatic Breathing/Appoggio

1) **Hoo"k" breath** = places the tone on the breath (coordinates the lower abdomen with the rib cage and strengthens the upper chest area so it doesn't collapse while singing)

2) **Haw"k" breath** =



This exercise helps the singer experience great support from the abdominal area as a result of the vocalization of the syllable.

# Releases and Onsets

- The best release, like the onset, is a coordinated one, where the vocal folds abduct (open) precisely as the airflow is turned around and inhalation begins.
- Onset of tone is coordinated between breath and glottal closure.
- ***Well-coordinated onsets and releases will result in a consistency of tone quality throughout each phrase and within each musical paragraph as tone begin and ends.***

# Onsets

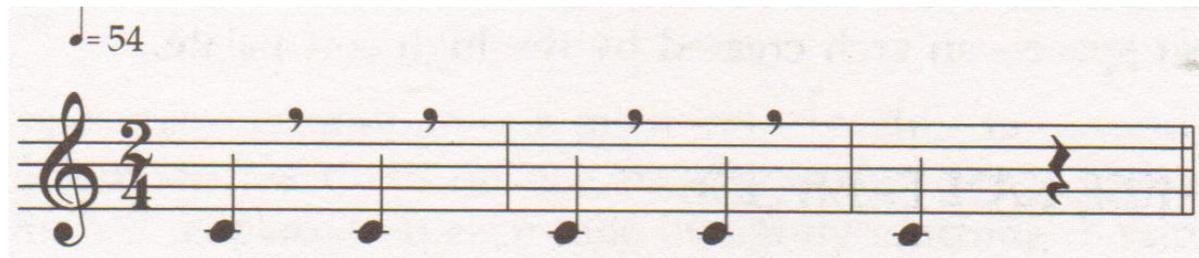
*For the onset of tone you have three choices:*

- The **pressed** onset (sometimes called a glottal attack)
- The **breathy** onset
- **A coordinated onset** (optimal choice, flow phonation)  
Sometimes this onset is also called a “silent h” onset. Beginning the tone this way, with a balance between the two extremes, will produce the most sound for the least amount of work. ***This is what many choral directors/voice teachers call “singing on the breath”; it is the most efficient combination of airflow and muscle pressure, and it provides the best “floppy” action of the vocal folds.***

# Onsets/Releases with Pure Vowels

Vocal Warm-Up #3

Hah-hay-hee-hoh-hoo



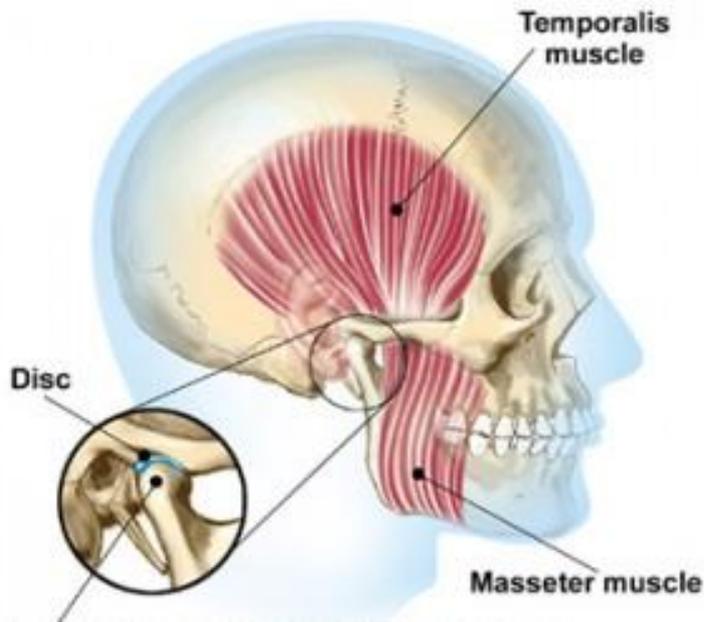
The image shows a musical staff in 2/4 time with a tempo marking of ♩ = 54. The staff contains five measures, each with a quarter note on the lower staff and a quarter rest on the upper staff. Below the staff, the phonetic labels H[a], H[e], H[i], H[o], and H[u] are aligned with the notes. The labels are: H[a] H[e] H[ i ] H[o] H[u]

This warm-up will activate the lower abdominal muscles in order to develop support. It will line up the onset of each vowel to be well-coordinated. After 8 weeks or so of regularly rehearsing warm-up, you may remove the “h” sounds from warm-up.

# Opening the Vocal Tract

- Released jaw, flexible and free of tension.
- Soft palate raised, but no tension in the pillars.
- Tongue flexible but independent.
- Throat open with the feeling of deep inhalation.
- Larynx low and stable, but not pressed down.

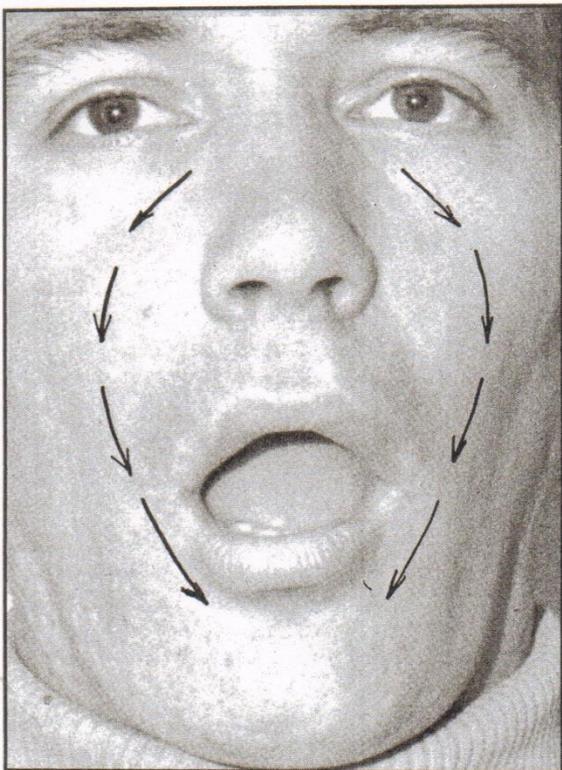
# “Drop your jaw!” ... Yes and No



Example: T M Joint

- **Release the jaw at the TM joint to change vowels. Mobility of this joint enables the lower jaw to drop down by the force of gravity, and we want to be able to take advantage of that forced.**
- **Massage the jaw and face for better elasticity and less constriction.**

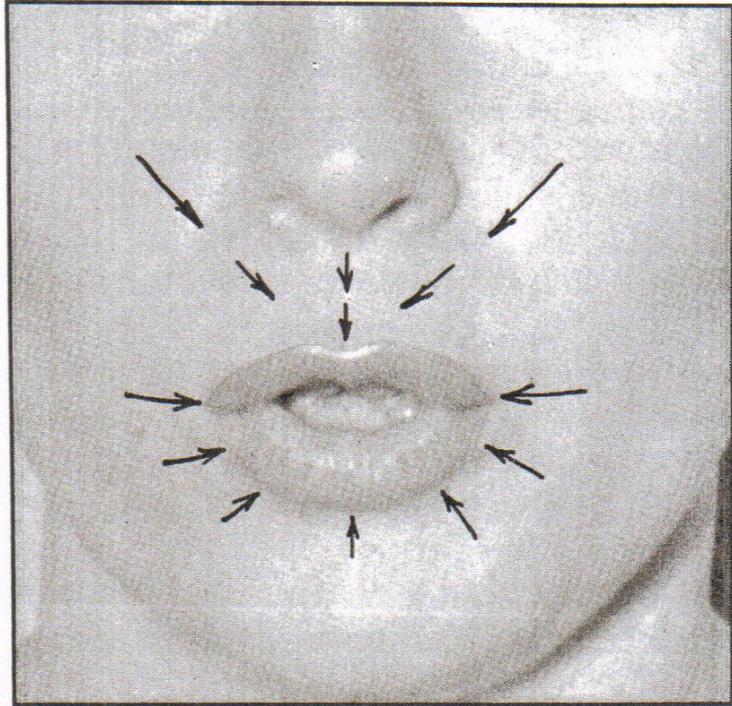
# “Drop your jaw!” ... Yes and No



Dropped Jaw and Mask  
(Incorrect)

- Two examples that contradict correct vocal technique are those based on a dropped jaw and mask and on fluted lips.
- The “dropped jaw” principle is based on dropping the jaw too far on any vowel in any range; the “dropped mask” principle allows the mask to drop (with no involvement of the cushions under the eyes or the upper lip) on all vowels and consonants.

# “Drop your jaw!” ... Yes and No



Fluted Lips  
(Incorrect)

- The jaw which drops too far does not allow for a clean enunciation of text or for the correct sitting of tones; it causes tones to be sung all in one color and, many times, under pitch, especially on the brighter vowel sounds.
- Also by fluting the lips, it pulls the soft palate down and out of position and reduces upper range in singing.
- Vowel sounds need back space and an arched soft palate, initiated by the inside smile.

## “Inside Smile”

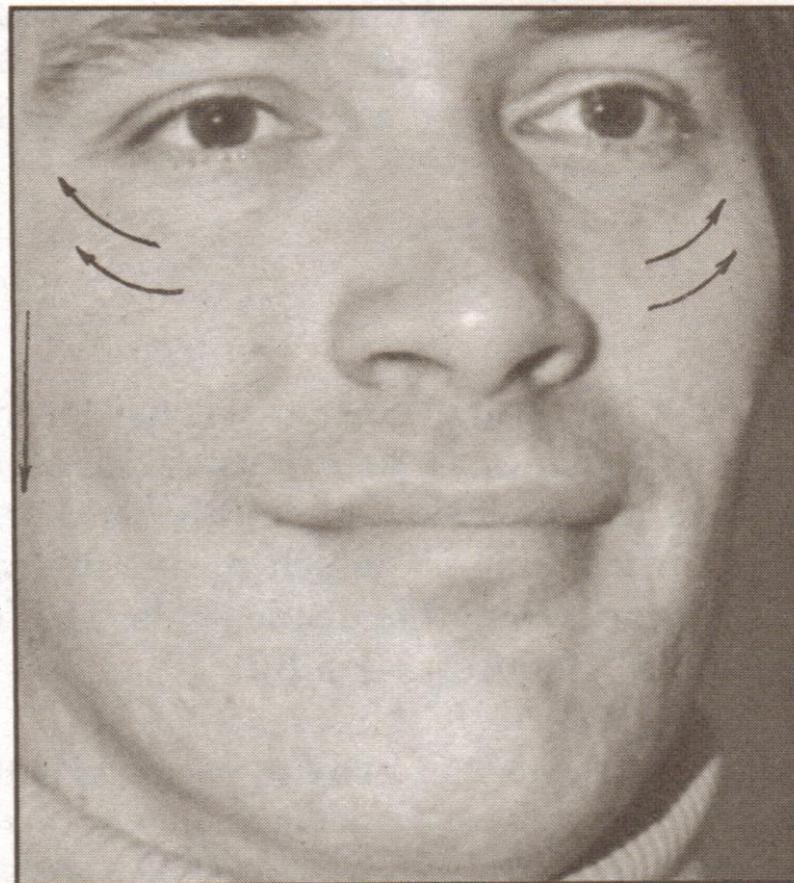
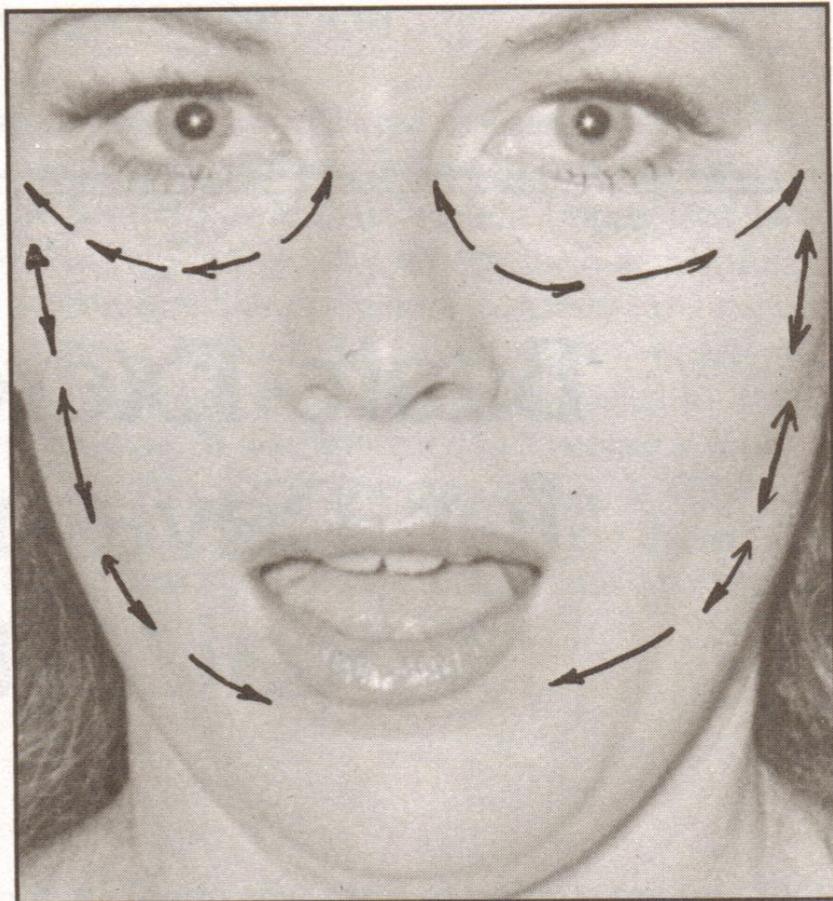
Close your mouth but not your teeth and SMILE as though you are smiling at someone across the room; a smile you do not wish to be noticed by others.

You will feel a slight muscular action on the cushion under your eyes.

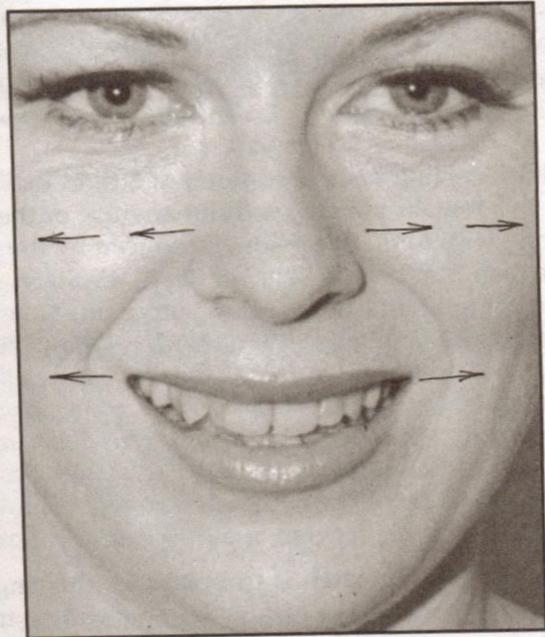
“SMILE WITH YOUR EYES”

The Inside Smile activates the soft palate.

# Visual of Inside Smile



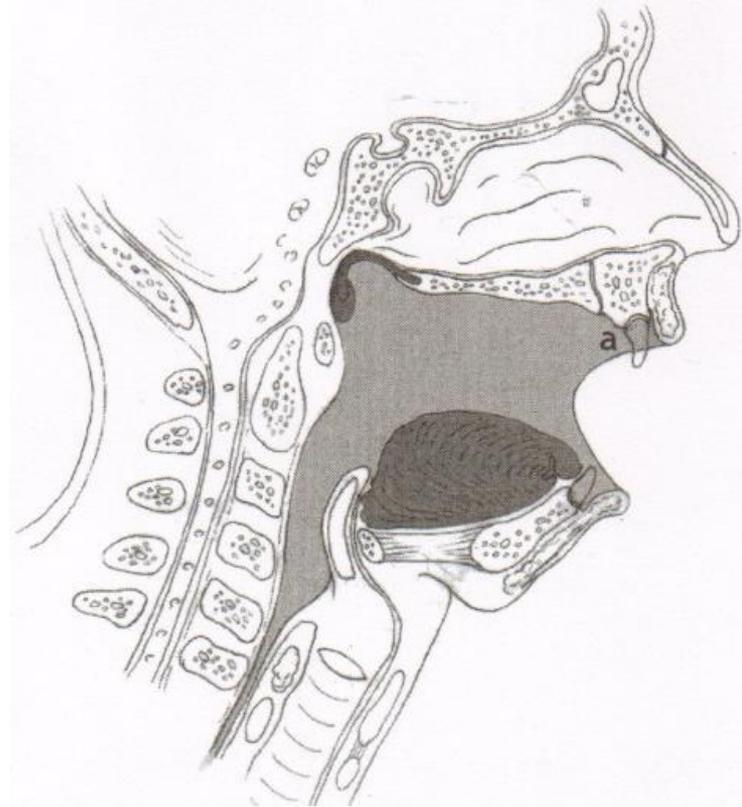
# Common Incorrect “Inside Smile”



- Some choral directors and singing teachers request an **external smile with the lips** when performing, a request impossible to fulfill without distortion of the intended vowel sound.
- Fortunately there are other choral directors who ask their singers to **smile with the eyes, or to think of an “inner smile,”** or perhaps to “smile with the back of your mouth” and leave the face alone.

# Soft Palate

- The domed soft palate plays an important role in changing the quality of a voice, and is one of the components of an acoustically resonant voice.
- When the soft palate is lowered rather than domed, the voice is likely to be overly nasal, with too much sound focused up into the nose. If the soft palate is lifted or domed, it almost completely seals off the nasal cavities, allowing the main body of the sound wave to come out through the mouth instead of exiting through the nasal cavities.



# Soft Palate/Blending Tone Throughout Range

Vocal Warm-Up #8

Ng – Hum



Ng \_\_\_\_\_

[ŋ]

To extend both lower and upper ranges and bringing the tones forward to focus them. It also bridges the voice over from one range to another. Find this tone by sustaining the “ng” of the word “hung.” Swing jaw as you begin descending.

# Palate/Blending Tone Throughout The Vocal Range

Vocal Warm-Up #9

Ng – Hum Version (Second version);

Ng-ee-av-ah



Ng  
[ŋ]

♩ = 40



[ŋ] [i] [e] [a]

To extend both lower and upper ranges and bringing the tones forward to focus them. It also bridges the voice over from one range to another. Find this tone by sustaining the “ng” of the word “hung.” Swing jaw as you begin descending

# What Should You Do With The Tongue?

- The tongue is a strong muscle that needs to be **tamed** for singing. It can cause tension/damage in vocal cords and larynx.
- **It should lay relaxed and limp in the mouth.** (as wide as the state of Texas)
- The tip of the tongue should usually rest against the back surface of the bottom teeth.

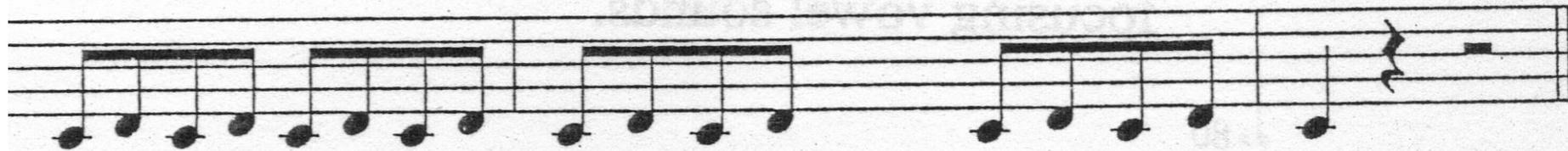


The tongue will move as a unit with the jaw as it releases at the TM Joint.

# Tongue/Jaw Coordination

Vocal Warm-Up #4

Hee-ah-ee-ah



The image shows a musical staff with five measures. The first measure contains four eighth notes, the second contains four eighth notes, the third contains four eighth notes, the fourth contains four eighth notes, and the fifth contains a single eighth note followed by a quarter rest. Below the staff, the phonetic labels H [i], [ɑ], H [i], [ɑ], and [i] are aligned with the notes in each measure.

H [i]      [ɑ]      H [i]      [ɑ]      [i]

Use “h” which is an aspirant and will take hold of lower abdominal area. This exercise connects tongue/jaw swing and extends breath capacity.

# Tongue/Jaw Coordination

Vocal Warm-Up #5

Fah-ee-ah-ee and Fee-ah-ee-ah

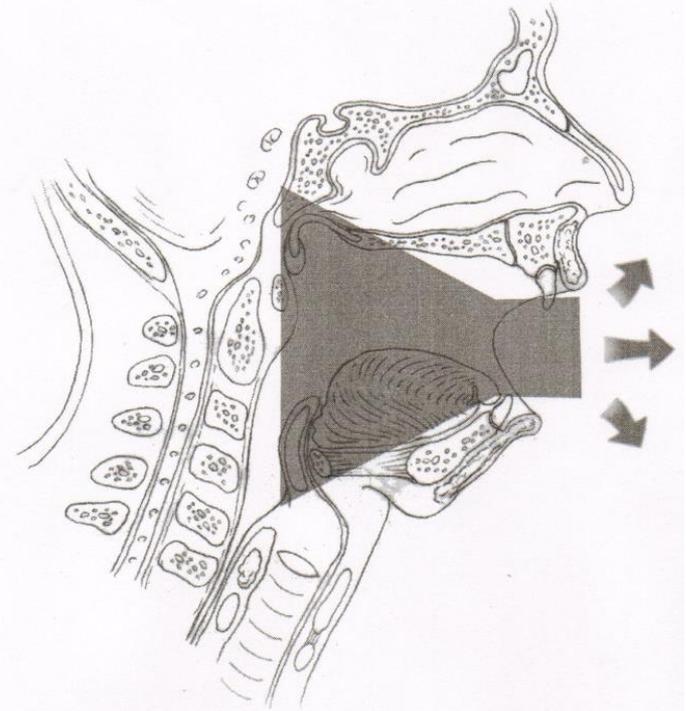
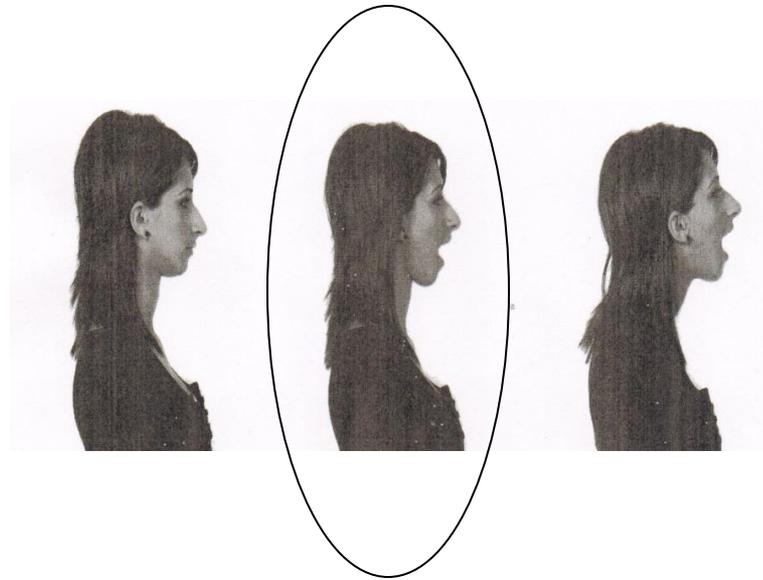


f[a] [i] [a] [i] [a] [i] [a] [i] [a] [i]

f [i] [a] [i] [a] [i] [a] [i] [a] [i] [a]

These two warm-ups are used together and will train the jaw to swing freely. Use F[a] [i] [a] [i] first and begin warm-up in the mid-range. As you are entering passagio, switch to F[i] [a] [i] [a] [i].

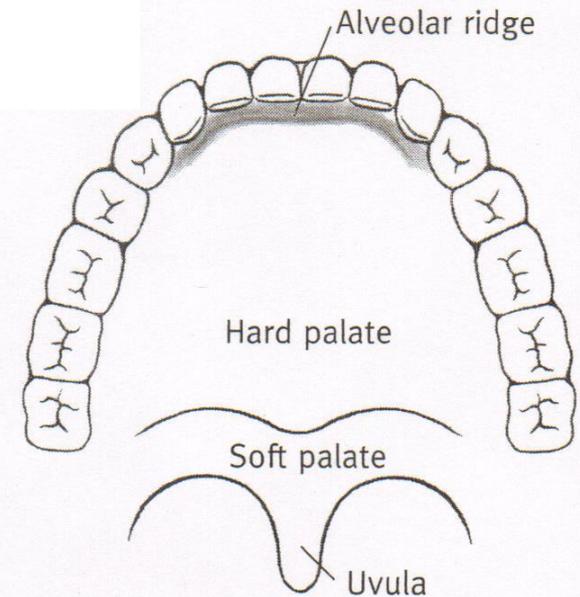
# What Does An Open Tract Look Like?



**The raising of the soft palate is coupled with the lowering of the tongue base and the lower jaw, appropriate to the specific vowel.**

# The Hard Palate

- The hard palate is a relatively **inflexible bony plate covered with mucous membrane.** It arches upwards and backwards from the upper front teeth and divides the nasal cavity from the mouth (oral cavity).
- It is a sensitive surface that can be **a focal point for the sound wave arising from the vocal folds.** This sensitivity is a very useful tool for enhancing the speaking voice when lecturing or acting, and it is essential for singing.



# Vowel Placement

Vocal Warm-Up #7

Kah-Kay-Kee-Koh-Koo

$\text{♩} = 60$

Kah kay kee koh koo  
k[a] k[e] k[i] k[o] k[u]

Kah (etc.)  
k[a] k[e] k[i] k[o] k[u]   k[a] k[e] k[i] k[o] k[u]   k[a] k[e] k[i] k[o] k[u]   k[a] k[e] k[i] k[o] k[u]

k[a] k[e] k[i] k[o] k[u]   k[a] k[e] k[i] k[o] k[u]   k[a] k[e] k[i] k[o] k[u]   k[a] k[e] k[i] k[o] k[u]   k[a] k[e] k[i] k[o] k[u]

To develop agility of jaw hinge and to increase mobility and strength of soft palate. Keep INSIDE SMILE.

# Inside Dome of the Mouth / Hard Palate

Vocal Warm-Up #6

Kee-Kah-Kee



The image shows a musical staff with a treble clef and a tempo marking of ♩=96. The notation is in 4/4 time. It begins with a whole note K [i], followed by a quarter note K [a], a quarter note K [i], a quarter note K [a], and a quarter note K [i]. This is followed by a 4-measure rest. The second part of the exercise starts with a quarter note K [i], followed by a quarter note K [i] [a], a quarter note [i] [a], and a quarter note [i] [a]. The final note is a quarter note K [i].

K [i] K [a] K [i] K [a] K [i]      K [i]      K [i] [a] [i] [a] [i] [a] [i] [a] [i] [a]

Use “k” to strengthen and activate the soft palate. Sing staccato with jaw swinging slightly, and have a feeling of the INSIDE SMILE. (Let teeth touch on consonants). Known as “inside pull-up”

# Registers and Focus Of The Tone

- Tone has both point and space, or a “**chiaroscuro**” (bright/dark) quality.
- When **chiaroscuro** is achieved, more of the sound is allowed to escape the body and enter the listener’s ears. In other words, more frequencies within the sound spectrum are magnified than diminished, and the voice sounds louder. The resultant tone is warmer, stronger, fuller, and richer in warmth and color. This type of resonance is optimal for singing purposes, because one is able to sing louder and with less effort.
- Tone projects forward in the room and resounds throughout the room.
- Singer’s Formant is present. “Ringing quality”
- Tone is clear but has dimensionality.

# Emphasis on Chiaroscuro

- One has the perception that someone has just turned on a microphone when resonance is optimal; the sound has a rich ringing quality and is more intense, while the singer seems to expend relatively little effort in producing the sound. Kinesthetically, however, the singer feels more like his head has just become a speaker; every part of the vocal tract seems to vibrate synchronously with the tone being sung.
- Balanced phonation and breath support are essential ingredients in the *chiaroscuro* tone.

# “Breathy” Tone

- A speaker or singer with a breathy tone, a “leaky” set of vocal folds—inefficient use of the breath already flowing out.
- The “breathy” tone results from air escaping through the glottis instead of being turned into a sound wave.
- The actor/singer needs to plug the leaks through imagery and guided vocal technique exercises.

# “Belting”

- “Belting” is the label that is often given to the style of singing that is currently used by some singers in musical theater productions, by some professional jazz singers, by some gospel singers, and by some rock singers.
- Belting is NOT raw chest tone. It is NOT taking chest tone and pushing it upward

# Blending Registers

- “Chest Tone” – sometimes referred to as the “heavy” mechanism”
- “Passagio” – the passageway from “heavy to light” mechanism. It is also known as the “middle voice.”
- “Head Tone” – sometimes referred to as the “light” mechanism

# Blending Registers

- Most errors occur in “passagio” (passageway between chest and head voice); also known as the area where you have a “crack” in your voice.
- **Arch Over** – means for the singer to feel that he/she is singing on the “top” of each note, by feeling the tone go up and over the soft and hard palate.
- **Full Voice** – means that the singer’s voice should sound like one tone quality from the extreme top of their vocal range to the bottom.

# Blending Tone Throughout The Vocal Range (cont.)

Vocal Warm-Up #10

Flah-Flah-Nee

Modification vowel [ɪ]

[ɪ]

fl[a] fl[a] n[i]----- fl[a] fl[a] n[i]-----

To promote the coordination of the jaw and tongue together. Watch that jaw drops straight down from the back, never jutting forward. (The tongue and jaw should always move together.) Watch that upper lip does not pull down on the “n[i].” **INSIDE SMILE.**

Modify the [i] vowel to [ɪ] (as in hit) vowel to open up pharyngeal area and resonate vowel better.

# Blending Tone Throughout The Vocal Range (cont.)

Vocal Warm-Up #11

Flah-Flah-Ning-ah

$\text{♩} = 72$

fl[a] fl[a] n[ɪ][ŋ] [a] n[i] n[e] n[i] n[e] n[i]

This exercise is a development of the “flah-flah-nee” and is used for a more advanced study of focus and correct jaw and tongue action.

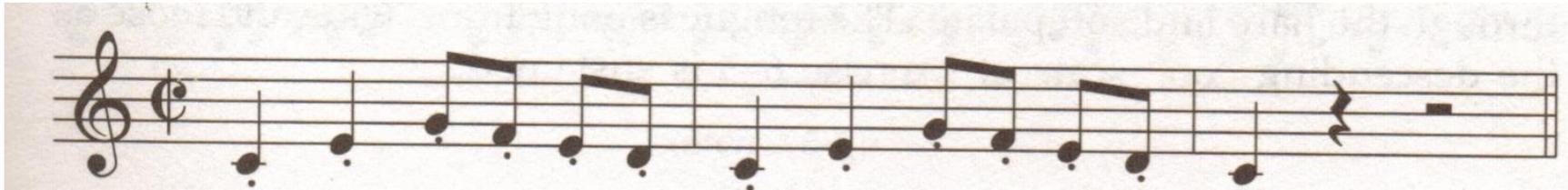
# Developing Head Voice

Vocal Warm-Up #13

Koo-Koo

Modification vowel: [o]

[o]



k[u] k[u]

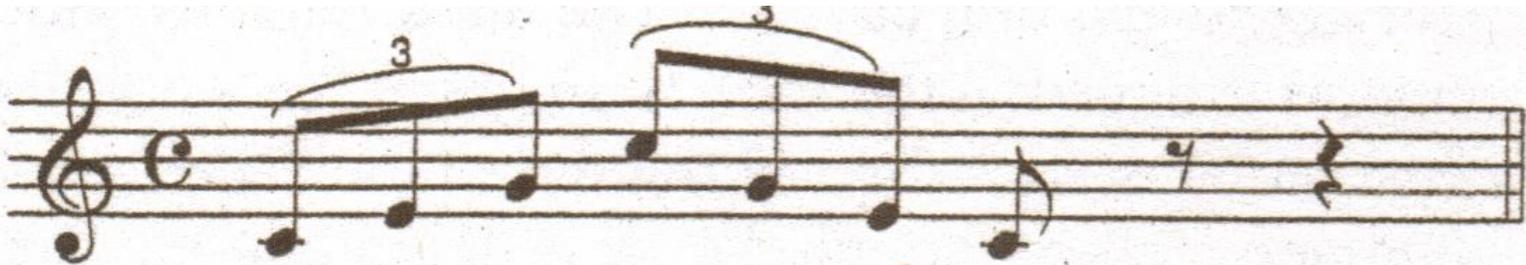
Practice warm-up on staccato. Light and bouncy. When reaching passagio; modify top-pitch vowel with a mix of [o] (as in toe) and [u] (as in shoe) to open spaces in pharyngeal area.

# Extending Upper Range

Vocal Warm-Up #12

Vee-vah-vee-vah-vee-vah-

vee



V[i] v[a] v[i] v[a] v[i] v[a] v[i]

Modification : V[i] [a] [ɪ] [æ] [i] [ɑ] [i]

INSIDE SMILE, width across the mask. Jaw swinging loosely at hinge.

When reaching passagio (passage way into head voice); drop out all “v’s” except for the first “v.” Modify the top-pitch vowel with a mix of [æ] (as in hat) and [ɑ] (as in father) to open spaces in the pharyngeal area.

# To Develop Low Range

Vocal Warm-Up # 16

Waw-ee



Snuff: w[ɔ]----- [i]-----

Before attempting this exercise, one should do the first half of the wide snuff and say “w[ɔ].” Involve in the inside smile.

Begin on middle C and one goes down as low as is comfortable, always being certain that the “w[ɔ]” has the big wide snuff sensation before starting the tone.

The “aw” feels as though it goes back up over the soft palate. On the decrescendo, the tone should be arched forward, with the back spaces open.

The tone should never be pressed down.

# A Sound Wave

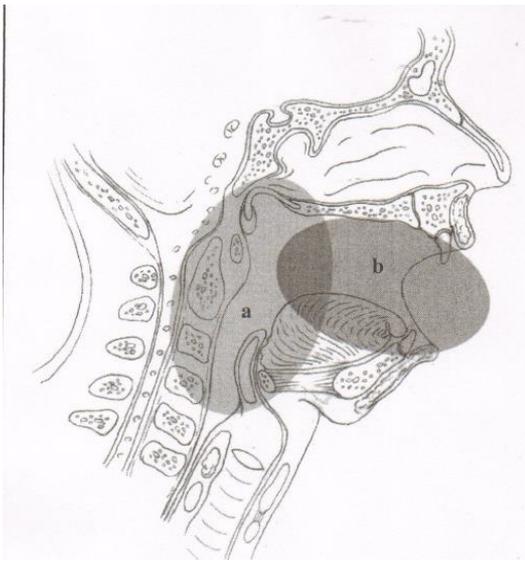
- A sound wave, even a very quiet one, carries farther than breath alone; and a moderately loud sound wave carries much farther than a moderate expenditure of breath.
- It is not the amount of breath that determines whether we are heard at the back of the room. What matters is how we use that breath, coupled with the skill of developing genuine resonance.
- **Re-sonance = re-sounding = sounding again**  
enlargement or enhancement or enrichment or ***amplification of the original sound.***

# A Sound Wave

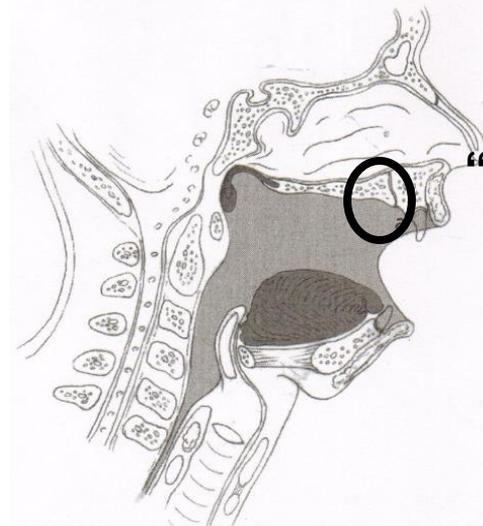
- We can think about it as building our own internal amplification system.
- **The sound wave is sent through the enlarged vocal tract. If things are well organized in the vocal tract, a louder and more resonant sound will be heard.**
- Since resonance is the end result of a developmental process, rather than something we either have or don't have, we can build a resonant speaking or singing voice.

# Resonance

Optimize the tone to produce a solid “core” sound. Each vowel has a distinct shape that has an optimal sound throughout the range.



“Tone Factory” and “Vowel factory”



“Red Hot”  
Candy  
Spot

“Upper harmonics”, “Singer’s  
formant = ringing quality”

# Focus Tone in Head Voice

Vocal Warm-Up # 14

Zay-luh-zah-luh

Modification vowels: [ɛ] [ɔ] [ɛ] [ɔ] [ɛ] [ɔ] [ɛ]

Zay — luh zah — luh zay — luh zah — luh zay — luh zah — luh zay — luh zah —

z[e] | [ʌ] z[a] | [ʌ] z[e] | [ʌ] z[a] | [ʌ] z[e] | [ʌ] z[a] | [ʌ] z[e] | [ʌ] z[a]-----

Be sure that the inside smile is present and that the jaw swings easily, but not too far on the first pitch. Allow it to swing more when going over the top of the third. If the tone is shrill or harsh, the back spaces are not open

# Focus Tone in Head Voice

Vocal Warm-Up #15

Zay-luh

Modification vowels: [ɛ]

[ɔ]

[ɛ]

[ɔ]

z[e] | [ʌ] z[a] | [ʌ] z[e] | [ʌ] z[a] | [ʌ]

z[e] | [ʌ] z[a] | [ʌ] z[e] | [ʌ] z[a]

Be sure that the inside smile is present and that the jaw swings easily, but not too far on the first pitch. Allow it to swing more when going over the top of the third. If the tone is shrill or harsh, the back spaces are not open.

# To Develop Strength Lip Pads

Vocal Warm-Up #17

Mah-Mah Exercise



Often in singing a text, the student will pull down the mask on the “m” consonant and will lose the inside smile. This exercise will correct this fault. Bounce upper lip pads in an upward motion after each “m.”

# Going Back to “Belting”

- *Belting is a development of resonance in the nasal cavity and should be directed with open back space.*
- *It requires maximum focus with resonance, never without.*
- *The best belting sound requires the vowels to sit very forward in the hard palate area rather than the soft palate area. (red hot candy spot)*
- *Never push the voice!*

# Develop Proper “Belting Tone”

Vocal Warm-Up # 18  
Nee-ay-ee



n [I]-----

Nee and



n [I] [ε] [I] [ε] [I]

To develop a “belting” tone for use in show and popular music. Relaxed and coordinated tongue/jaw swing is necessary. When first starting out, have student(s) lay tongue out flat touching lower lip. That will cause the resonance to be directed towards the alveolar ridge.

# Use of Vowels

- The *vowel* is the medium for forming and sustaining the vocal tone
- A vowel is primarily an internal matter, interior shaped space, *with the lips having relatively little to do with it.*
- This *vowel space* transmits or *transfers a sound wave from the sound source* (the vibrating vocal folds within the larynx) *to the outside world.*
- *The shape of the vocal tract* (throat and oral cavities) *is what gives spoken or sung sound its vowel identity.*

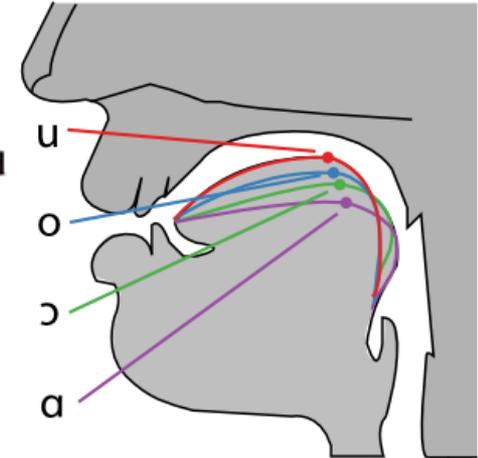
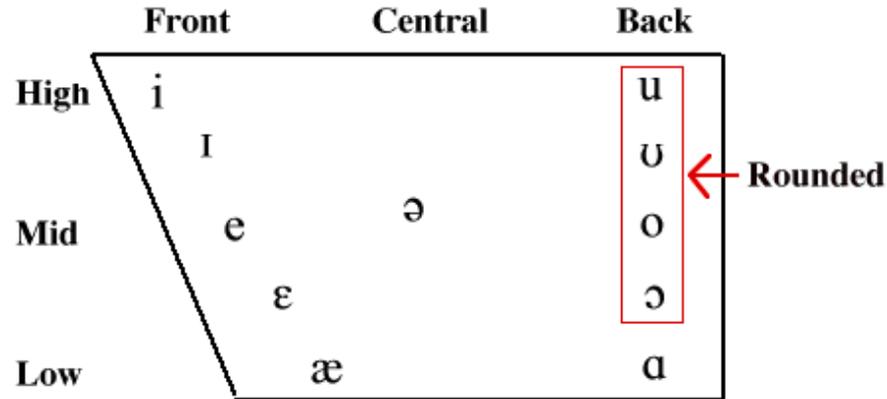
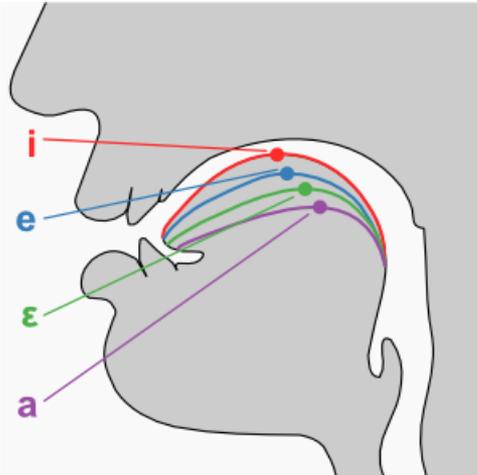
# Formants

- The cavities of your vocal tract change in shape and volume as you move your articulator organs to speak. That means that their resonance frequencies will be constantly changing. These different resonant frequencies are called *formants*. Since the target moves continually, it is difficult for the singer to hit the mark every time. It is important, therefore, that the singer have a method or process that will help him/her to discover the optimal resonance on any spectrum of vowels and pitches.

# Formants

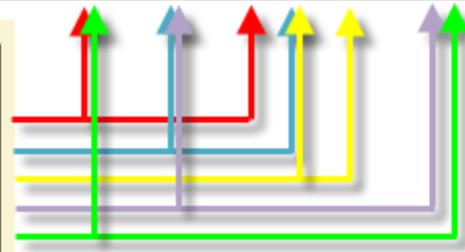
- Berton Coffin was a proponent of using vowels to tune the resonator to the sung pitch. He charted the vowels that resonate well on each pitch of the chromatic scale; based on the formant frequencies of each vowel and its relationship to the fundamental frequency and overtones of the sung pitch, he suggested which vowels will resonate optimally.
- The new theory of vowel modification is less restrictive because harmonics and formants do not need to be fine-tuned to each other. It is only important to "lift" a harmonic over an inertance valley by modifying the vowel. The new theory also makes a strong connection between vowel modification and voice registers (sometimes called lifts)

# Vowels



Vowel Formant Centres

IPA Vowel Symbol	Main Formant Region	Formant 1 ( $f_1$ )	Formant 2 ( $f_2$ )
u "oo"	200–400 Hz	320 Hz	800 Hz
o "oh"	400–600 Hz	500 Hz	1000 Hz
a "ah"	800–1200 Hz	1000 Hz	1400 Hz
e "eh"	400–600 and 2200–2600 Hz	500 Hz	2300 Hz
i "ee"	200–400 and 3000–3500 Hz	320 Hz	2500 Hz



# Vowel Modification

- An intentional, slight adjustment made to the sound (acoustics) of a vowel, by altering the basic way in which a vowel is articulated, with the goal of attaining more comfortable and pleasing tone production, especially in the higher part of the singer's range.
- Singers should sing vowels that free up the voice.

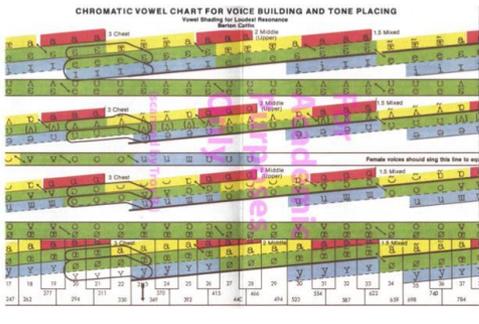
# Vowel Modification

- When vowels are correctly modified, the singer experiences more comfort, the tone is more beautiful, and the air supply lasts longer.
- With the aid of vowel modification, singers will have fewer intonation problems, better resonance across their ranges, more carrying power, easier production of forte (loud) and piano (soft), clearer diction, and a much better blend.

# Vowel Modification

Vowel Modification is linked to two major aspects of singing:

- ***Acoustics*** (including optimal resonance, balance of tone and smooth registration)
- ***Protection of the vocal instrument*** through correct and healthy laryngeal adjustments.



# Vowel Modification Chart

## Head Register (involves passagio and up)

*Brings sung pitch and the resonance of vowels into their best relationship.*

*As the vocal range ascends;  
the vowels will modify from left to right on this chart:*

- [i] “ee” sound → [ɪ] “ih” sound → [ɛ] “eh” sound
- [u] “oo” sound → [o] “oh” sound → [ɔ] “aw” sound
- [e] “ay” sound → [ɛ] “eh” sound → [æ] “a” sound
- [ɑ] “ah” sound for “igh” → [ɔɪ] “aw-ee” sound

# Articulation

- A consonant creates *an interruption in the stream of vowel sounds*, chopping up the stream into recognizable syllables, words, phrases, sentences, and paragraphs.
- Consonants should only minimally interrupt this smoothly flowing stream of vowels.
- Consonants also *give texture and color* to the language.
- Consonants are formed within the vocal tract—the primary articulators being the tongue (tip, blade or body, and rear), teeth, lips, and hard palate, especially the alveolar ridge.

# Consonants

- Consonants must be crisp, compact, and clear. Too little consonant in a large room means we will not be understood. Too much consonant in relation to the vowel, however, can also leave us with a dark sounding color in our voice.
- A common unnecessary use (or misuse) of facial muscles is when a student is asked to shape their lips like a trumpet in order to “project” the sound. This request actually makes it impossible to have the necessary muscle flexibility for the complex coordinated act of shaping vowels and articulating the companion consonants, especially on higher pitches.

# Consonants

- My recommendation based on training and experience is to evaluate which consonants you would begin with regarding warm-ups.
- Many choral warm-ups start with an “l”, “m,” or an “n” consonant because the goal is to place the vowel in the most resonant part of the nasopharynx area.

# Consonants

- However, if the “inside smile” and the “open back space” or “open vocal tract” is not mastered before introducing these warm-ups; they will physically lower the soft palate or cause tongue tension and develop habits for the singer that is harmful to their vocal health.
- I would suggest starting with pure vowels, the whispered “h” sound, or consonants like “k”, “d”, “z”, and “t” in that order.

# International Phonetic Alphabet

- The International Phonetic Association is an organization dedicated to the study of the science of phonetics, it was practical to have a way to represent sounds of language in written form.
- From its foundation in 1886 the Association has been concerned to develop a set of symbols which would be convenient to use, but comprehensive enough to cope with the wide variety of sounds found in the languages of the world; and to encourage the use of this notation as widely as possible among those concerned with language. The system is generally known as the International Phonetic Alphabet.

# What is the IPA?

- The International Phonetic Alphabet (IPA) is an extensive collection of characters that each represents only one sound. It is based primarily on the Roman alphabet; so much of it will be familiar to students.
- The IPA is designed to encompass a variety of diverse languages. There are additional letters and symbols included because there are more sounds in language than there are letters in the Roman alphabet.
- The IPA is a system for teaching sounds that can then be applied to a variety of languages and dialects. “Singers will be able to use appropriate diction in a variety of circumstances”

# What IPA Looks Like

International Phonetic Alphabet (IPA) Symbol	English equivalent sound spelling underlined
<b>Vowels</b>	
[i]	see
[ɪ]	sit
[e]	cha <u>o</u> tic
[ɛ]	le <u>t</u>
[æ]	ca <u>t</u>
[ɑ]	fa <u>th</u> er
[ʌ]	sh <u>u</u> t
[ə]	a <u>b</u> out
[o]	o <u>b</u> ey
[õ]	French nasal, no English equivalent; sing a pure [o] with a lowered soft palate
[ɔ]	y <u>a</u> wn
[ʊ]	pu <u>t</u> , bo <u>o</u> k
[u]	no <u>o</u> n
[ai]	li <u>gh</u> t
[au]	ho <u>w</u>

Consonants	
[b]	bee
[d]	do <u>g</u>
[f]	fr <u>an</u> k
[g]	go <u>o</u> d
[h]	h <u>a</u> t
[k]	ki <u>t</u> e
[l]	le <u>a</u> f
[m]	mo <u>m</u>
[n]	no
[ŋ]	in <u>k</u> or ra <u>ng</u>
[ <sup>h</sup> ŋ] [ <sup>*</sup> ŋ] or [ <sup>ʔ</sup> ŋ]	used to denote the subtle tongue changes in the [ŋ] in words like <u>si</u> ng, sa <u>ng</u> and so <u>ng</u>
[p]	pe <u>t</u>
[r]	re <u>d</u>
[s]	si <u>t</u>
[ʃ]	sh <u>i</u> ne
[t]	ti <u>p</u>
[θ]	th <u>i</u> ng
[ð]	th <u>e</u> se
[v]	vi <u>ct</u> ory
[w]	wa <u>te</u> r
[hw]	wh <u>i</u> te
[j]	ye <u>s</u>
[z]	ze <u>br</u> a
[ʒ]	vi <u>si</u> on

# Give Your Students A Powerful Tool

- Without the IPA, singers are reduced to learning through imitation and repetition, which are time consuming methods. (aka “Song Teacher”)
- “It is now rare to find singing teachers in North American departments of music who ignore the valuable aids offered by the IPA in accomplishing greater language awareness and pronunciation accuracy.” (Miller, 2011)

# Basic Mechanics of the IPA

- The convention of enclosing symbols in square brackets [ ] is used to distinguish them from the letters of the English alphabet
- “The use of the IPA results in more precise communication about speech sounds and pronunciation”
- The IPA provides a common method both for directors to communicate the intended sounds to their choir, and for choir members to notate those sounds for later recall.
- The teaching and use of the International Phonetic Alphabet’s symbols for sound should be used for all singers within the context of the choral rehearsal.”

# Multiple Learning Styles

- The IPA also provides a visual component to a method of learning that is typically limited to aural.
- Some students may learn quickly by hearing the text and repeating it, which are traits of aural and oral learners, respectively.
- Others will retain information through seeing the IPA characters and writing them in their score, exhibiting traits of visual and kinesthetic learners.

# IPA can...

*IPA can increase efficiency, save time, and improve tone in the choir rehearsal.*

1. How can the IPA be taught in a precise and efficient manner in a high school choral setting?
2. How can students be assessed for understanding of the IPA in a high school choral setting?
3. What is the effect of IPA training on tone production and language pronunciation in a high school choral setting?

# How to teach IPA in choral setting....

- Warm-ups provide the perfect opportunity to teach singers the IPA. Teaching it during warm-ups doesn't take much time, and it can save considerable rehearsal time as a choir becomes more familiar with the IPA symbols and uses them to learn works in unfamiliar languages.
- Most choral directors feel that time spent warming up is not time wasted. Incorporating IPA lessons into these exercises will achieve the same goal of warming up while teaching secondary concepts at the same time.
- The symbols are taught as they come up in the choral literature being performed.

## IPA offers a Change of Focus

- “Use of the IPA symbols requires the singer to view ‘voice production’ in acoustic, not in laryngeal, terms. Such concentration removes attention from the laryngeal vibrator itself, over which no direct local control is possible. The singer’s attention is now directed to the resonation system, over which there *is* considerable conscious control”
- The shift in focus from the mechanical to the acoustic is one of the benefits of the IPA.
- “The International Phonetic Alphabet can be of tremendous value in vocal pedagogy because it directs the mind and the ear phonetically.”

# Assessment and Effects

- There are also times that a director takes for granted the pronunciation of certain words. This is especially true when singing in one's native language.
- There are also variations of pronunciation within the ensemble due to differences in cultural and regional experiences.
- The use of IPA in a choral rehearsal forces the director to make specific choices about certain sounds, and encourages consistent use of these sounds. "Speaking and writing precisely will lead to your thinking precisely about what you do as a teacher" This ability to quickly and precisely communicate vocal sounds and pronunciations to a choir should not be underestimated.

# Roadblocks to Implementation

- **Worries about time.** The most common reason given is a function of rehearsal time.
- **The IPA does take time to teach.** If the director expects singers to learn the IPA on their own with little time or input during rehearsal, the results will be less than optimal. Time and care must be taken during choral rehearsals to teach the use of many different singing skills, and diction is no exception.
- **It is even less time-effective to teach every sound in a piece by rote,** which is what imitation and repetition imply.

# The Value of the IPA – to sing in other languages

- One of the primary goals of the IPA is to provide a way for linguists to recreate sounds of languages that were unfamiliar to them without having to become fluent in the language. This description would also apply to a choir that is expected to perform in a language with which they are unfamiliar. Because of this similarity in outcome, the IPA would seem to be a powerful tool for singers to learn.
- Once learned, the IPA can be applied to many different languages, thus speeding up the process of learning different languages. Consistency of symbols in multiple languages can be very useful to singers. Every individual sound does not need to be taught one at a time. Rather, the sounds that are tied to the IPA symbols can be quickly and directly applied to the new language

# Excellent Summary of IPA

“The advantage of using the IPA is that precise and accurate understanding of vowels makes possible better blend, better resonance, more intelligibility, a lessening of passaggio impediments, and better answers to range problems in all sections—all the advantages that accrue to vowel modification, ease of foreign language pronunciation, as well as uniformity despite regional accents. It is well worth the trouble”

# Summary for Presentation

The IPA is a useful skill. It is a tool that is specifically designed for solving problems with pronunciation and diction. When creating a sculpture, a sense of what is beautiful and an eye for working with the shape of the marble is absolutely essential.

However, one should not underestimate the importance of knowing how to swing a hammer. In the same manner, it may seem that the focus of the limited time in rehearsals should be on singing the music. But if the choral director takes time to hone the singers' skills in vowel production and matching through the use of the IPA, singers will be able to apply those skills to every piece they sing. This will eventually save rehearsal time by increasing efficiency.

## Suggested Reading: Books

- Boytim, Joan Frey. *The Private Voice Studio Handbook*. Milwaukee, WI: Hal Leonard, 2003.
- Conable, Benjamin and Barbara. *What Every Musician Needs to Know About the Body*. Chicago: GIA Publications, 2000. Print.
- Heirich, Jane Ruby. *Voice and the Alexander Technique*. Berkeley, CA: Mornum Time Press, 2005. Print.
- Henderson, Larra Browning. *How to Train Singers*. West Nyack, NY: Parker Pub. Co., 1991. Print.
- Jordan, James Mark., and Marilyn Shenenberger. *Evoking Sound: The Choral Warm-up : Method, Procedures, Planning, and Core Vocal Exercises*. Chicago: GIA Publications, 2005. Print.
- Marchesi, Mathilde. *Marchesi Vocal Method Parts I and II*. G. Schirmer, Inc., Print.
- McClosky, David Blair. *Your Voice At Its Best: Enhancement of the Healthy Voice, Help For the Troubled Voice*. Long Grove, IL: Waveland Press,

## Suggested Reading: Books

- Nix, John. "Vowel Modification Revisited." *Journal of Singing*, November/December 2004. Volume 61, No. 2, pp. 173–176
- Paton, John Glenn. *Vaccari: Practical Method of Italian Singing*. G. Schirmer, Inc., 1975. Print.
- Rundus, Katharin. *Cantabile*. Pavane Publishing: Hal Leonard, 2009. Print.
- Schlesinger, Matthew W. *The IPA for Choirs*. Master's Project. VanderCook College of Music. July 2013.
- Smith, W. Steven. *The Naked Voice: A Wholistic Approach to Singing*. Oxford University Press. 2007. Print.
- Titze, Ingo R. "Resurrection from the Coffin." *Journal of Singing*, November/ December 2007 Volume 64, No. 2. pp. 199-201

# Vocal Health Issues

- If we overdo the muscular work involved in forming the speech/singing sounds (vowels and consonants), and especially if we engage too much of the whole system in the act, we can damage the voice.
- Adolescent voices need careful nurturing. Their voices are developing; they really don't have a complete instrument until they are in their early twenties (this will vary by voice and gender).
- They must not be pushed into singing with a vocal quality that they are not developmentally ready or able to produce. Avoid literature that is too vocally demanding, even if they can "sing the notes."

# Vocal Health Issues

- This takes a lot of discipline on the part of choral director/voice teacher, of course we would like the thrill of more demanding literature, but remember that teenagers sometimes don't have the same voice two days in a row because of all the changes.
- Be patient and value vocal freedom above a "mature" sound or dynamic extremes.