

ABSTRACT

Title: **FUNDAMENTALS OF VOCAL PEDAGOGY
AND APPLICATIONS FOR CONDUCTORS
NOT TRAINED IN SINGING**

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Musicians who are given the opportunity to conduct a choir may not always be trained singers themselves. In particular, keyboard players who are not trained as vocalists often elect to pursue careers that include choral conducting. There is no single resource designed specifically for choral conductors (or any conductor whose primary instrument is not their singing voice) who may not have received private voice lessons for an extended period in their musical training. There are many resources for advanced choral techniques, warm-ups, vocal pedagogy for those who already have experience as choral conductors, choral singers and vocal soloists. This document provides basic discussions and applications that address the fundamentals of vocal pedagogy and how those fundamentals could be applied within basic choral warm-ups and rehearsal techniques, all designed for conductors who do not have training in applied voice or in choral music education. The heart of this document focuses on basic Vocal Pedagogy, equipping the inexperienced vocalist with anatomical knowledge of the voice and the mechanics of vocal production.

Inexperienced and untrained singers, along with other musicians who are seeking ways to teach vocal technique to choirs will benefit from this overview, as it will provide a single and concise resource to answer questions concerning foundational issues of vocal pedagogy, and their application within a choral rehearsal.

My sources include a compilation of books, articles, and videos published in the latter half of the twentieth century, weighted more toward materials published within the last ten years. I analyze, highlight and compare current leading Vocal and Choral Pedagogy texts by Barbara Conable, Meribeth Bunch, Cynthia Vaughn, Leon Thurman, Graham Welch, Roger Love, Frauke Haasemann and other authors citing, in my opinion, the most important information needed by inexperienced vocalists who find themselves teaching and/or conducting in a choral setting. I then share my own experiences, offer applications and exercises and reflect and/or comment on the information cited. I hope this makes the terminology less technical and more user-friendly to the “vocal layperson,” or inexperienced vocalist, allowing for quicker understanding and application of the content.

VOCAL PEDAGOGY AND APPLICATIONS FOR CONDUCTORS NOT
TRAINED IN SINGING

By

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Dedication

I dedicate this document to my parents, family, teachers, mentors, friends, and others who have supported me throughout this journey, and who are responsible for the person I am today.

In memory of Bruce Gustafson- musician, teacher, mentor, friend, and the person who opened my eyes to pursue a career in music.

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Introduction

Voice building is fundamentally linked to choral singing and the production of choral sound. “The product is equal to the sum of its parts,” is an excellent idea to remember when dealing with many voices to create one sound. Choral directors have the opportunity to build sound during every rehearsal setting and warm-up situation. Without careful attention to the building of each voice within a choir, the desired choral sound will never be attained. Thus, it is imperative that choral directors with little or no vocal training acquire some fundamental knowledge of vocal pedagogy and the ability to apply this knowledge in a warm-up and rehearsal situation. Without knowledge of vocal pedagogy, it would be difficult for a conductor to refer to parts of the voice and manners in which to sing. Without knowledge and correct application of warm-ups, a choral conductor will fail to build choral sound in a rehearsal. Finally, without an efficient and effective rehearsal process, a conductor cannot expect their choral musicians to perform acceptable programs in seasonal concerts or weekly church services.

Chapter 1: Body Basics

Introduction

As it is necessary for an instrumentalist to become very familiar with the makeup and functions of the instrument, it is necessary for a choral conductor to become very familiar with the makeup of the body and voice and how their various parts function in order to sing properly and healthfully. Therefore, before a conductor begins to build voices in a choral setting, he must recognize the body and voice as instruments that require study and care.

The Alexander Technique

A brief introduction to the Alexander Technique is important for any musician as it provides a means whereby the use of the voice or any particular body part is improved by improving the use of the whole body.¹ Barbara Conable is a teaching member of the North American Society of the Teachers of the Alexander Technique and of Alexander Technique International, and says the Alexander Technique is a simple and practical method for improving ease and freedom of movement, balance, support, flexibility and coordination. It enhances performance and is therefore a valued tool for actors, dancers and musicians. Practice of the Technique refines and heightens a kinesthetic sensitivity offering the performer a control that is fluid and lively rather than rigid.

Wilfred Barlow, author of *The Alexander Principle*, says it is a hypothesis that is not an established or absolute truth, but a new way of looking at things or a new

¹ Conable, Barbara and Conable, William. *How to Learn the Alexander Technique: A Manual for Students*. Third ed. 1995. Andover Press. Columbus, OH, 1

way of organizing oneself. An idea of the Principle proposes a different way of life, not different in the sense of making its users into oddities, but different in that its users can learn to adopt concepts and adapt successfully within their social, artistic, and biological spheres.

The Alexander Technique can be implemented while teaching voice in any setting and while conducting.

“Alignment” vs. “Posture” and Body Mapping

Singing is a physical and full-body experience. How vocalists maintain and hold their bodies and how they find a natural position seems to be one of the greatest challenges for voice teachers and choral conductors. Even with the best of intentions, a teacher or choral conductor can verbally communicate physical restraints simply because of the terminology used. The terminology used while teaching fundamental technique is vital to the success of building voices. Barbara Conable, an Alexander Technique specialist, advocates the use of various terms like “Body Mapping” when “rediscovering” how parts of the body are shaped, how they function and where they are located. Body Mapping allows conductors to give bits and pieces of anatomical truth to the choir rehearsal, both during the choral warm-up and during the rehearsal. As an added benefit, the conductor whose own body is correctly mapped will discover a freer conducting gesture that results in heightened breathing and listening skills.² Conable uses “alignment” and “body buoyancy” to replace terms like “posture” and “sit up straight.” When speaking in a Body Mapping context, one does not use postural language, or the “old way” people used to talk about body position

² Conable, Barbara. *The Structures and Movements of Breathing*. GIA Publications. Chicago, Illinois, 8

while singing. In fact, James Jordan suggests that postural language should be eliminated from the choral rehearsal altogether, avoiding verbal miscues that sabotage true body alignment. Alignment should now come to mean understanding and correcting one's own Body Map so that one can find a balanced and efficient "place" for singing.³

Mastery and awareness of physical balance and/or alignment is the first principle in healthy singing. Instrumentalists will tell you that the most wonderful technique in the world will not help when their instruments are unbalanced or misshapen. This is doubly true for singers whose instruments are their bodies.

Just as people will be surprised at how much re-learning takes place during their body basics discussions through Body Mapping, they will discover the need to re-learn how to sit and/or stand with correct alignment. When one is aligned correctly for the first time, the body will send a "this-is-not-correct" signal to the brain. One should persist, and will find soon that the body will develop muscles and support to adjust to one's new way of standing and sitting.

A teacher who may have taught voices lessons, or any kind of lessons, will know that what students think they are doing physically may not really be the case. It is important that teachers test themselves being absolutely certain to master the technique before demonstrating to an individual student or choral ensemble.

In a choral setting, inexperienced or untrained vocalists should take every chance possible to video themselves and/or find a mirror in order to assess whether they are ready to teach these concepts to their choirs. I would encourage conductors to find willing students to use as vocal training "guinea pigs," offering them extra

³ Ibid. 9

credit, lunch, or other means, to refine their verbal delivery, directions and style of teaching. The more one teaches the concepts, the better they become at doing so!

Personal Perspective/Reflection

Your choir members need to be encouraged to get to know their voices and how their bodies function to produce sound. Use a source like *The Structures and Movements of Breathing* by Barbara Conable, as it contains helpful diagrams and the foreword poses questions and solutions specifically geared for a choral setting. Body Mapping basic muscles and the actions that are happening during various vocalizations on certain vowels is essential to the success of your building voices and thus, choral sound. It is an inexpensive, octavo-sized primer that can fit in your choir members' folders.

I am in total agreement with Barbara Conable's advocacy of Body Mapping. Choirs of all levels and abilities have responded positively to this terminology. I believe "posture" carries a negative connotation, stemming as far back as the old grammar school days when (supposedly) a teacher would demand good "posture" with a ruler in-hand! Mind you, many teachers use this term, including authors cited in this document. It may work for them and their students, but I would caution against the use for the above reasons and would like to note the importance of knowing about different schools of thought and the choice of terminology.

Summary and Application of Alignment in a Choral Setting

Correcting a voice without generating good physical balance or alignment first is like trying to build a sturdy, stable house around a crooked framing.

Misalignment of the head and shoulders is a major contributor to poor tone quality and to potential vocal damage. Monitor your choirs so they do not push the head forward toward a microphone or audience- an extremely common occurrence, particularly exaggerated in the pop singing world. Singers, both young and old, love to imitate their idols- and all of their bad habits too! Encourage your choirs to sing with their heads over their shoulders, keeping their alignment intact.

Here are some observations for you to make in a group- or for yourself:

- How are you standing presently? Get a partner to coach someone to duplicate your posture exactly. After that person is standing or sitting exactly like you, notice what your profile is like. Get that person to describe how it feels to adopt your stance while you move around him/her to see how you look. (It is very effective to look at a side view of yourself with a video camera.)
- Choose a few lines from any piece and, with a partner, experiment with what happens to your singing, your body, and your tone quality when you do the following:
 1. Sing with your weight on your heels.
 2. Sing with an overly arched back.
 3. Sing with your weight on your toes.

Now, tilt the crown of your head (that area where your cowlick sits near the back) towards the ceiling being careful not adjust your chin up or down in an overt or misaligned manner. Be sure to keep your knees gently loose and balance your weight evenly between the balls of our feet and heels. The balance is correct when you rise up on your toes by pushing through the feet without adjusting any other part of the body. One may find the need to move their weight more forward than originally thought. The feet should feel “superglued” so each foot will remain in full contact on the floor with your weight more forward. (This is a beginning, and it does not matter if you are not yet perfect at it.)

Efficient physical balance and alignment of the body ensures that the parts of the instrument are in position to work together to produce a free sound. This means your lungs, **throat (vocal tract)** and your **voice box (larynx)** are all in line and in the position of maximum efficiency for singing.⁴

An Example of a Physical Warm-up in a Choral Rehearsal

A physical and vocal routine must be established to facilitate consistent vocal development in any choir.

Warming up the voice for a rehearsal is very similar to an athlete’s warm-up for an event such as a track meet. One wouldn’t want to pull a muscle by beginning with sprints, or an exercise that required more flexibility. The same is true for vocal warm-ups. Singing is a physical, full-body experience. Establish a physical routine with your choirs. Use the routine to allow them to decompress from their day’s trials

⁴ Bunch, Maribeth and Cynthia Vaughn. *The Singing Book*. 2004. W.W. Norton and Company. New York, 8

and tribulations, and get their bodies and minds into a more centered and focused manner. This may be in contrast to their daily jobs or days full of classes, tests, and lunch period food-fights.

I'll scratch your back...

Backrubs are enormously popular- especially among adults. (Some adults will join choir just for the backrubs!) Begin with backrubs. I would highly recommend structuring the warm-ups in a 7-12 grade setting and “kill two birds with one stone” by humming and chewing in the low, middle and high parts of the voice, with different ways to massage for each switch, (i.e.- low/massage, middle/little chops, high/kneading). Humming and chewing is an excellent “first stretch” to get voices going and to connect to their lower part of the body and breathing mechanisms.

Please take time at the beginning of the year or term to walk them through this routine so they have goals and can work to get themselves ready for the rehearsal at hand, at any given time. Empower your top choirs to warm-up by themselves.

You may tailor the time for backrubs as needed. As the rehearsal period progresses, then you can request a more “abbreviated” time for backrubs, and thus, ask them to become more aware of what they need to do physically to compensate for not having their free massage therapy for the day. Ask adults to hum and chew in the car on the way to rehearsals. Being stuck in traffic is an excellent excuse to begin a vocal warm-up and mental focus routine!

Once backrubs and humming are finished, request they return to their “dance spaces” (singing should feel like dancing, and thus more personal space is often desired, if there is room) and begin to massage areas on their faces, warming up the “instrument.” This includes the cheekbones, jaw hinges, sides of the neck, and the back part of the neck. On bad weather days or seasonal times of the year where a low-pressure system or allergies may affect your singers’ sinuses, massage the lower sinus cavities (under the eyes, along the cheekbones) using strokes going away from the bridge of the nose and massaging them out of the temples. Proceed to the upper sinus cavities, stroking away from the bridge of the nose and massaging it all out on the temples. Next, massage the forehead, ears, and the flexible or “flabby” parts of the cheeks. The vocal mask needs to have blood going there in order to truly have the freedom for the best placement of vowels and optimal resonance. Massaging these areas will increase blood flow to these regions.

Additionally, rolling shoulders, bending legs, arm circles, head pivoting, and jumping jacks will all help your choirs to get more physically awake and buoyant, with poised bodies.

The choir is now in good physical readiness to begin the vocal warm-up portion of the rehearsal.

The Vocal Tract (Throat/Pharynx), Larynx (Voice Box), and Soft Palate

Sound is made and amplified in the **vocal tract**, which consists of the **voice box (larynx)**, and the throat area all the way up and back to the soft palate.

When referring to “the voice,” the above words are often used incorrectly, as many people have mismapped⁵ the vocal tract in general. This section will clarify questions regarding what the larynx, pharynx, and soft palate actually are and how they function in both everyday life and in singing.

Sound is initiated in the **larynx (voice box)**. The quality of sound depends upon the shape of the **pharynx (throat)**. The pharynx is highly flexible and capable of forming many different shapes. Each variation of shape will cause the voice to produce a different voice quality.⁶

The Pharynx and the Soft Palate

The pharynx (pronounced “fair-inks”) is a muscular, sleeve-like structure that hangs from the base of the skull and attaches itself to various bones and cartilages along the way. It has openings into the nose, mouth, and the larynx, and then becomes completely circular and continues as the esophagus. The pharynx serves a dual purpose by acting as both an air and a food passageway. For breathing, the pharynx needs to be relaxed and spacious. For swallowing, it closes around food and peristalsis (the squeezing down of the food into and through the esophagus) occurs. When one swallows, the whole pharynx is pulled up and narrowed to squeeze the food down. This brings the **larynx** (pronounced “lair-inks”) up with it. Therefore,

⁵ Conable, Barbara. *The Structures and Movements of Breathing*. GIA Publications. Chicago, Illinois, 19

⁶ Op. Cit., Bunch and Vaughn, 269

the whole throat (remember, “throat” is synonymous with “pharynx”) becomes short and narrow, which is not a good space in which to sing. When the muscles of the pharynx relax, the space is wide and long creating the optimal scenario for the most resonance and a freely produced sound.⁷

Anatomists and acousticians usually divide the pharynx into three main sections: the **nasal** (also referred to as **naso**) **pharynx**, **oral** (also referred to as **oro**) **pharynx**, and **laryngeal** (also referred to as **laryngo**) **pharynx**,⁸ or the most forward, middle and lower sections of the pharynx. The nasal pharynx is located between the base of the skull and above the **soft palate** up to the nasal cavity. The soft palate (the soft part located at the end of your hard palate, or the back part of the roof of your mouth where your tongue cannot reach any further) can move up and close off the nose as in making non-nasal sounds or swallowing, and it can be lowered for nasal sounds or breathing. This area is the most flexible and can form many shapes because the soft palate can move up and down and the tongue and larynx can move as well. The oral pharynx can become taller, wider, narrower, shorter, and so forth. It is the place in which most of vowel resonance occurs.

Application of the Soft Palate in a Choral Setting

Try noticing what the soft palate does while yawning. It should “lift” and/or “expand,” creating more space within the vocal tract. I will often encourage choirs to “sing through a yawn,” or a “yawny feeling” noting the spaciousness created by the lifting of the soft palate in preparing to yawn. After proper training and practice, this

⁷ Bunch, Maribeth and Cynthia Vaughn. *The Singing Book*. 2004. W.W. Norton and Company. New York, 269

⁸ Ibid. 270

action should occur involuntarily as one prepares to sing. This is something that can be taught, and its retention varies from person to person. Some students/choristers may do it naturally, may do it with little training, and may do it over a long period of time, while some may never quite get it! (Please read the “singing voice” and “speaking voice” portion later on in this section, as the use of the soft palate is further discussed and applied.)

The Larynx (Voicebox), and Vocal Folds/Cords

In the simplest of terms, the larynx is the “box” inside of our vocal tract that houses our vocal folds (also called vocal cords). The main structure of the larynx consists of four cartilages and a bone, all of which serve as protectors of our vocal folds. We have two muscular and flexible vocal folds (one on either side of the voicebox) that are brought together to vibrate when air passes between them. To make sound, vocal folds need to come together. To breathe, they need to open. To create higher pitches, the vocal folds need to stretch. To accomplish all of this, some small muscles do a lot of work without our having to think much about it. Generally speaking, the vocal folds are thick and loose when relaxed or singing on low notes, and they are stretched thinner as one moves higher in pitch.⁹

⁹ Bunch, Maribeth and Cynthia Vaughn. *The Singing Book*. 2004. W.W. Norton and Company. New York, 263

“Speaking Voice” vs. “Singing Voice”

As teachers of the voice, we need to know our voice’s dual function. I refer to the “speaking voice” as the voice we use everyday in speech, when our singing technique is disengaged, and our “singing voice” as the voice that surfaces when our vocal technique is applied (i.e. raising of the soft palate, aligned body and breath support). These two voices differ significantly in resonance, placement, and overall sound. There are vocalists, especially teachers of voice and those who must perform excessively, who speak more with their singing voice than their speaking voice. This is mostly for vocal health reasons, not to sound pretentious.

The “singing voice” is bigger, more powerful, more spacious, and comes from a deeper connection to “the core” of one’s body- or the center of one’s body from where breathing should be initiated. It is more connected to the muscles producing the breath of the person producing the sound.

Teachers, politicians, conductors, parents, and others who need to use their voices in a more authoritative or commanding fashion will most likely use more of their “singing voice,” as it tends to be more resonant, spacious, supported, and can carry better in a larger room, arena or lecture hall. Often, in theatre training and productions, directors will ask actors to “project” their voice- especially when not using microphones. This is also an example of using a hybrid of both our “speaking voice” and “singing voice.”

You do NOT need to be a trained vocalist in order to model a type of sound for your choirs. If you can reasonably imitate or verbalize what you hear from your

choir and verbally explain what you'd like to hear, providing short vocal examples, then you will be successful.

Application of “Speaking Voice” and “Singing Voice” in a Choral Setting

At the beginning of the year with my choirs, and within the first ten minutes when I guest conduct festivals and other clinics, I have this discussion and demonstration.

As a trained vocalist, I am able to demonstrate, which is certainly an advantage. I ask choirs to imitate my different voices and echo various phrases like, “Good morning/afternoon/evening!” (I mention if I were to talk in my singing voice all the time, they would probably think I was “weird!”)

If, after diligently practicing and/or recording yourself (and asking others if they can hear a difference), **you cannot demonstrate the difference between singing and speaking voices**, then find someone in your choir who has a lovely voice and have a ten-minute meeting with him. In this meeting, explain your strategies and ask that person to serve as a vocal model in rehearsal. Have multiple options within your choir, both male and female.

Be cautious! Please be sure to pick models with a clean and pure tone, who may be able to demonstrate with more, less, and just the right kind of vibrato (for more information about the vibrato, please see Chapter 4), and someone who could be appreciated by the choir versus someone who will use this opportunity for a public ego boost! This will provide more immediate references for various vocal issues and types of sound for which a conductor may be looking.

If you do not have any “ideal” voices in your choir, I recommend that you tap into a local high school and propose a “community service” credit for a talented senior, or offer an internship or “opportunity” to a Music Education/Vocal Performance major at the local university. This “local expert” could come in and give a “Masterclass” on how the voice works, or simply sing with your choir for a few rehearsals, providing leadership and serving as an example. Perhaps offering internships to multiple students could provide you with section leaders, having both male and female models. If you have a good budget, then locate your favorite local or regional professional voice teacher, or working vocalist, and have that person offer a “Masterclass.” (If you find someone who really works well for your choir, I would recommend you set up multiple visits with the same person for consistency and reinforcement. It can also be beneficial to receive multiple approaches, so perhaps start by having several Masterclasses and then ask your top two favorite instructors to return.)

Chapter 2: Breathing

“I take in no more breath for singing than I do when smelling a flower.”

-Mattia Battistini, the great bel canto baritone.

Introduction

Breathing is the foundation for life. Breathing is the foundation for singing and conducting. The very core of music making, whether it is with the voice, strings, or other instruments, begins with the breath.

As babies, we are naturally good breathers. How many times have you been in a church, a concert or a grocery store, and heard a baby’s cry fill the room? (My father would say, “She’s got a set of lungs, huh?”) While the baby cries, there is no body tension or vocal tension because the act is more of a reflex rather than a voluntary act. Babies instinctually (and unknowingly) use perfect vocal technique! Even while crawling, babies are still properly connected to the breath. Then as toddlers, we learn to walk upright. Standing on two feet could be considered the worst possible thing we do to ourselves as this action sabotages correct vocal technique! As soon as this happens, we forget how to breathe deeply and fully. Ask your choir to “take a deep breath” and see how many shoulders rise up and how much tension exists in their neck, face, jaw, shoulders and back. The stereotypical “deep breath” is a universal bad habit when considered from a vocal standpoint! Try having your choirs crawl on the floor to experience breathing as an infant would experience breathing.

Numerous muscles connected to the rib cage, neck, and back work to maintain stability during the breathing process. The intercostals (muscles between the ribs) are often mentioned as contributing to inhalation and exhalation. Be aware that they are most effective as stabilizers of the ribs, and work very well when we stand properly.¹⁰

Once Body Mapping is discussed, a choir director can begin to talk about breathing. **Inhalation, exhalation and the body parts involved** are the topics of the following section, as described by the noted authors.

Inhalation Perspective #1 (Bunch and Vaughn)

When we are at rest, we breathe normally, quietly and passively. The chest area expands to let air in and relaxes to let air out. We do this subconsciously. On a daily basis an average human being takes in 24,400 subconscious breaths,¹¹ so if we had to consciously think about every breath there would be nothing else to do!

As a singer, the two most important things to remember are¹²: (1) Use the most physically and vocally efficient way of breathing and (2) keep the air moving rather than attempting to hold it back.

There are two kinds of breathing: (1) efficient, and (2) inefficient. When we breathe efficiently:

1. The body is physically balanced and poised for action.
2. The intake of air is silent.
3. There is no visible muscle tension, especially not in the face mouth, neck, shoulders or chest.

¹⁰ Ibid. 256

¹¹ Bunch, Maribeth and Cynthia Vaughn. *The Singing Book*. 2004. W.W. Norton and Company. New York, 252

¹² Ibid.

4. The feeling of the breath begins deep in the lower part of the body.
5. The focus is on sensing the action of the lowest ribs in the back and the lower part of the abdomen in the front.
6. The abdomen and ribs are flexible and available to respond to the demands of singing.
7. The muscles of the abdomen are able to work with reasonable effort to help the air flow out without interference by the chest or neck.

While looking at a skeleton, one can see the largest open space of the chest is at the bottom of the rib cage. Thus, it makes sense when we want to create more space for air we need to expand that area. This is what takes place during natural and efficient breathing versus forced or inefficient breathing.¹³

Breathing for singing needs to be accomplished easily and deeply. Notice the use of the word *deeply* rather than *big*. Deep breaths and big breaths are not the same. In this case, deep refers to the lower half of the body (including the abdomen and the lower ribs in the back) when expansion takes place upon inhalation. Singers can take in small or large amounts of air as long as the response is felt deeply within the body.¹⁴

Application of Inhalation in a Choral Setting

I suggest trying this as an individual first, then set up partners within your choir, using a “demonstration couple” to guide the rest of the group. To experiment with efficient and inefficient breathing, find a large mirror and take a huge breath, letting

¹³ Bunch, Maribeth and Cynthia Vaughn. *The Singing Book*. 2004. W.W. Norton and Company. New York, 253

¹⁴ *Ibid.* 9

the shoulders and chest rise. Then take a breath with a slouched alignment followed by a breath with an overly arched back. Breathe with efficient physical alignment. Finally, breathe and feel as if you have an imaginary pipeline to the lower abdomen. Assess and discuss the different feelings and the effects of all these actions.

The Diaphragm and Inhalation

A very large dome-shaped muscle called the *diaphragm* occupies the lower part of the rib cage. It is the most important muscle of inhalation (inspiration) and acts as a partition between the chest and the abdomen. To picture it, imagine inserting into an empty skeleton a large, strangely shaped muscular hat that has its lower brim stuck around the bottom edges of the last rib. The top part of the dome is tendinous and located centrally just below the heart and does not have the capability to move very much.

The edges and main body of the diaphragm are formed of thin muscle and the center is a thin, flat tendon. When the diaphragm contracts it moves downward, displacing the lower ribs and the organs and soft structures below it. It is not capable of moving below the ribs, including those in front. It does not invert. The action of the diaphragm causes the abdomen to expand and the lower ribs to move outward. This abdominal expansion is caused by organs being displaced and has often caused people to mistake it for the diaphragm itself. When the body is in good alignment, this action will happen easily without specific attention paid to the diaphragm. Without such alignment, efficient breathing becomes difficult to master.¹⁵

¹⁵ Bunch, Maribeth and Cynthia Vaughn. *The Singing Book*. 2004. W.W. Norton and Company. New York, 254

Twelve pairs of muscles running from the sides of the vertebrae toward the angle of the ribs elevate the ribs from behind and help the diaphragm. These pairs of muscles are called *levator costarum*, and are in position to raise the ribs slightly and swing them outward. The effectiveness of this movement relies on the flexibility and freedom of the back. A stiff, straight or rigid back will hinder this process.

Inhalation Perspective #2 (Barbara Conable)

Excellent breathing for singers depends on three conditions- (1) freedom from tension throughout the body, (2) a lively, on-going body awareness and (3) an accurate Body Map (or “internal representation,” as some scientists call it) of the structures and movements of breathing. Body awareness, an adequate and accurate Body Map, correct and efficient breathing and freedom from tension all serve members of a jazz choir as well as it serves a cathedral choir or a gospel choir, though the members are singing with different techniques.¹⁶ Singing is movement. Breathing is movement.

Rib movement is an important part of the process of breathing. Ribs move at joints in back, but ribs move at cartilage in the front. We have twenty-four ribs, twelve on each side, twenty meeting springy cartilage in the front and all meeting the spine in the back, where each rib attaches to one of the twelve thoracic vertebrae. This means that we breathe at twenty-four breathing joints in the back; a breathing joint being where each rib moves in relation to the spine as we inhale and exhale. Each rib swings up and out in relation to the spine as we inhale, and each rib swings down and in as we exhale. The swinging action accounts for what scientists call the “**excursion**” of the ribs. This is a much better word than the more commonly used

¹⁶ Conable, Barbara. *The Structures and Movements of Breathing*. GIA Publications. Chicago, Illinois, 13

“expansion,” because ribs actually do not expand. Ribs, like all bones move at the joints, from the action of muscles. The muscles that move the ribs lie between them, and are called *intercostals*. One set of *intercostals* moves the ribs up and out and another set moves the ribs down and in. The degree of *excursion* correlates with the volume of air inhaled.¹⁷

Rib movement is crucial to life and to singing. Rib movement must be distinguished from the heaving up and down of the thorax at vertebral joints. This is a movement we can make when we inhale and exhale or while we hold our breath, proving that it is a movement unrelated to breathing. Breathing does not happen at vertebral joints, as heaving and collapsing do, but where our ribs are joined to our spines by cartilage.

Rib movement must also be distinguished from a pulling up and down of the collarbones and shoulder blades as we breathe, another movement often confused with the legitimate movement of breathing. Our collarbones should remain comfortably and flexibly suspended over our moving ribs.

It must be understood that air goes no lower in the torso than the lungs. Very important movements of breathing happen below the location of the lungs, but those lower movements must not be confused with air or with movement of air, which flows in and out of our lungs and no lower.

The esophagus, lying behind the trachea (also called the windpipe), is the food tube. Singers with tight vocal tracts will almost always describe or draw the esophagus as lying in front of the trachea. Their mistakes in the Body Map create

¹⁷ Ibid. 28

tension. Mapping the air tube accurately in front of the food tube resolves the tension.¹⁸

Application of Inhalation in a Choral Setting

Choral conductors consistently need to remind singers who may confuse the location of their “food tube” and “air tube” (esophagus and trachea, respectively) that sound is not a substance; it is purely vibration in air. Singers who comprehend this fact move air cleanly in and out through the trachea, using their intercostals and their diaphragms. Use the beginning of every rehearsal to dispense small portions of information that can then be applied in the rehearsal and anytime thereafter. Have each of your choir members invest in the Conable text, which will give them access to that information on a daily basis. During any given part of a rehearsal, please make reinforcing comments or ask questions such as, “Are we all breathing through our front tubes and avoiding tension in our sound production that may be caused by the swallowing muscles?”

We must understand that the diaphragm is a horizontal, not vertical structure and domes high within our ribcage. In this regard, frequent reference to “breathing low” is confusing to young singers, not because “low” isn’t important, but because the injunction undervalues and distracts from the equally important higher movement of ribs and diaphragm.¹⁹ Students ask, “Should we breathe high or low?” The answer is, “yes.” We should breathe high, low, and middle, across the entire natural range of breathing movement.

¹⁸ Conable, Barbara. *The Structures and Movements of Breathing*. GIA Publications. Chicago, Illinois, 24

¹⁹ *Ibid.*, 30

Personal Perspective/Reflection

The use of the word “domed” was crucial to me in finally understanding the shape of the diaphragm. So often, vocal pedagogues will offer vague descriptions of this important muscle causing frequent mismapping.

In my latest Vocal Pedagogy class, my teacher made a two-liter bottle with the bottom cut off. A small balloon was in the spout on the inside of the bottle itself (a lung) and a latex glove was fitted around the bottom (the diaphragm), in order to simulate the breathing process. The glove acted as the diaphragm, and when I pulled on it a vacuum was created on the inside of the bottle, causing the little balloon at the top to inflate. This visual demonstration helped me comprehend the act of breathing and caused me to appreciate the large size of the diaphragm and its function.

Inhalation Perspective #3 (Thurman and Welch)

Your body operates like an air pump to sustain life. The pump creates an inflow and outflow of air within your lungs. This “**breathflow**” is the *primary function* of breathing. The same respiratory pump helps us create sung and spoken language, which are *secondary functions* of breathing.²⁰ Efficiency in the physical coordination of breathing produces just the necessary amount of breath pressure and airflow for skilled singing and speaking.

The breathing muscles are attached to the skeletal frame. If the skeletal frame is out of balance or alignment to some degree or if it is moved with some restriction, the body cannot perform skilled breathing coordination at peak efficiency. The way

²⁰ Thurman, Leon and Welch, Graham, ed. *Bodymind and Voice: Foundations of Voice Education*, II, 339.

one arranges their own skeleton is the first fundamental skill of expressive singing and speaking.”²¹

There are four main ways to breathe:²²

1. Raising and lowering your chest cavity’s ceiling.
2. Lowering and raising its floor.
3. Expanding and contracting its walls.
4. By some combination of the above three.

During breathing in general, upper chest and shoulders should remain “quiet,” moving in tiny amounts in response to midsection movements.²³

The Diaphragm

When it contracts, the diaphragm muscle cannot send air out of the lungs. Rather, it can only move downward or tense itself in one location. The only way it can create outflow of air is to release its downward contraction and return upward to its at-rest location.

When the diaphragm is at rest, it extends up into your lower ribcage. When the diaphragm muscle is activated its fibers shorten and that action pulls the entire diaphragm downward so that it flattens the bottom of the ribcage. When this happens the lungs are lengthened, creating a negative pressure inside them and air is automatically drawn into them through the nose and/or the mouth.²⁴

²¹ Ibid. 340

²² Ibid.

²³ Ibid. 345

²⁴ Thurman, Leon and Welch, Graham, ed. *Bodymind and Voice: Foundations of Voice Education*, II, 340

While breathing in, *feel as though* the lungs fill with air from the bottom of the abdomen up (like a glass fills with water). The chest wall floor lowers and fills first and then immediately the ribcage walls open out and up like a small umbrella might spread over the abdomen. Please keep in mind that air does not enter the abdomen. The authors use of the phrase “feel as though” identifies the suggested action as imaginative rather than literal. The entire expression suggests a “filling” sensation, or sense of expansion in the abdominal area during inhalation. The expansion results from the downward displacement of your abdominal contents.²⁵

Inhalation Perspective #4 (Roger Love)

Love says breathing smoothly and deeply works wonders for the body in general. It gives a person more energy. It can center and calm your mind. It will give your voice power and consistency. Once you learn how to breathe as calmly and as steadily as a child does, you are on your way to fabulous vocal reaches. Breathing is like a Zen concept: we must allow it to happen instead of forcing it.²⁶ We’re meant to float through the act of breathing instead of turning it into a grueling activity. By paying attention to when it gets difficult, or when it seems to take special effort, one can relax and let the breathing be steady, smooth, and even; the perfect foundation for beautiful speech and singing. To understand how tension and effort get in the way of correct breathing, singers need to know what’s happening inside their bodies. Our breathing is involuntary, but we should bring in some consciousness to this automatic

²⁵ Ibid.

²⁶ Love, Roger. *Set Your Voice Free: How to get the Singing or Speaking Voice You Want*. 1999. Little, Brown and Company. New York, 35

process. By becoming more aware, it will allow a vocalist to intervene, making the necessary adjustments.

Love summarizes the essential breathing equipment and how it works. The lungs rest on the *diaphragm*, a large muscular sheet that separates the chest cavity from the abdomen. The diaphragm is attached to the spinal column, lower ribs, and breastbone. It naturally arches upward, but when one inhales it contracts, moving down an inch or two. This little movement seems insignificant, but it powers the breathing process. It gives the lungs more room to expand and it changes the air pressure inside the lungs. Imagine the lungs are a container with a false bottom. When the diaphragm drops, the “false bottom” falls out and air rushes in to fill the vacuum. When the diaphragm relaxes and begins to rise. The air in the lungs becomes more compressed in its smaller space and it rushes out. If the lungs are allowed to hang freely in the chest, and if the diaphragm is allowed to drop and rise, one will be breathing like a baby, fully and naturally.

Personal Perspective/Reflection

I wish I could have sung my entire undergraduate Senior Recital bent over at the waist, or while on all four's! The tension gravity creates simply by standing up is something choral directors need to address frequently. We must ask our choirs to relearn how to stand in a newly “aligned manner” (rather than, “with good posture”) and how to breathe within a choral context. This is another case where terminology and delivery are important.

In daily rehearsals with college students, high school students, amateur church choirs, and community choirs, I find myself repeating phrases like “Connect to your body,” “Use more of your lower body,” “I can hear the music is not in your body” and “Until it’s in your body, it will never be in your voice.” (It is important to note this process: Music needs to be in our ears first, then our bodies, and then our voices. This **does not** mean teach only by rote, but until your choir can listen and/or hear their parts with or without help it is impossible for them to put the music in their bodies.) The only way sound can truly come from within the body is with high quality, efficient inhalation. The foundation for singing is breathing- especially the inhalation.

How a singer breathes and prepares for singing directly affects the outcome. If a rhythmic passage is about to be sung, then a singer must breathe and prepare rhythmically. If a long, legato line is ahead, then a long and legato breath is needed. If there are rests preceding the entrance, take advantage of this opportunity. One of my favorite teachers in undergraduate school called rests, “Concentrated Non-Performing Times,” and to this day I tell that to everybody who will listen at any level.

I would encourage conductors to observe rehearsals at all levels and seek out amateur choirs that have a beautiful sound. If their sound is coherent and cohesive, good breathing is occurring not only in the performance, but even more importantly, in their rehearsals.

Beg, borrow and steal from anyone you can and fill your “toolbox” with enough tools to help your choirs in any situation. From there you may begin to tailor your own tools to fit your own ensembles.

Application of Inhalation in a Choral Setting

There are a number of standard breathing exercises that have worked for years and years for many conductors and voice teachers. “Inhale for 4 counts, hold for 4 counts, exhale on a ‘hiss’ for 4 counts” and variations of this work splendidly. I would urge you however, to use your imagination and creativity. Ask your choir members to help you outside of rehearsal to formulate clever means to develop breathing technique within your choir. The best exercises are those where the ensemble members are enjoying themselves without knowing they are learning or developing skills!

Some examples:

1. “Pant like a dog.” “Pant like a *big* dog.” “Pant like a *tiny* dog.” “Pant like a big dog that is tired”, and so on. They are using their breathing muscles whether they know that they are or not.
2. Sip through a McDonald’s straw, as they are thicker than normal straws and one can get more, and more quickly! Be cautious about using this exercise with younger students, as they will most likely turn it into some sort of scenario that looks like they may be “taking a large drag” from a cigarette.

3. Have your choirs place one hand on their “tummy” and the other on their back, allowing their shoulders to always be relaxed. Putting hands on the hips creates shoulder tension, and forward slouching.
4. Have them perform a quick and deep inhalation as if you just won a new car/bike/pony/concert tickets/island/Playstation, etc...! “Ready, go!”

In your creativity and cleverness be certain that you, the conductor, are always thinking about the method behind the seeming “madness.” While asking the choir to work with these ideas, ask questions that may seem obvious like, “Do you feel lightheaded?”

Remember, we do not use the full potential of our lungs on a regular basis, and this potential is needs to be realized in order to support and project the singing and speaking voice in musicals, dramas and public speeches. Discuss and revisit these ideas with your choirs.

Exhalation Perspective #1 (Bunch and Vaughn)

Most people correctly think about inhalation before exhalation. Ideally, vocalists should think first of the exhalation and then allow the inhalation to be a reflex action. It's just as easy to think of breathing out in order to breathe in. Exhaling during the introduction of a piece and then allowing a reflex breath a beat or two just before one sings is a secure approach. This could be considered a pre-meditated "reflex" until it becomes part of a singer's technique. Many singers panic during introductions, be they short or long, and somehow are never ready when it's time to sing forcing a last-minute gasp.

Exhalation during minimal physical activity is a matter of releasing the muscles of inspiration and allowing the "elastic recoil" of the lungs and gravity do the rest. We do this subconsciously. For singing, we need to use more muscular effort and the muscles of the abdomen best accomplish it.²⁷

The abdominal muscles form a girdle around the abdomen itself and facilitate breathing without interfering with the vocal tract. There are three paired muscles - (1) **transversus abdominis**, (2) the **internal obliques** and (3) **external obliques** that form this girdle. A fourth set, the **rectus abdominis**, commonly referred to as the "six-pack," goes up and down the midline of the abdomen from the ribs to the pubic bone. The muscles that form this abdominal girdle tend to work as a unit for breathing. When they contract they cause the abdominal contents to move toward the

²⁷ Bunch, Maribeth and Cynthia Vaughn. *The Singing Book*. 2004. W.W. Norton and Company. New York, 255

back and up into the dome of the diaphragm, helping the diaphragm to return to its original position and to send air out of the lungs.

Where a singer chooses to activate the abdominals is very important. The most efficient area is the lowest, near the pelvis. Inefficient use of the muscles of exhalation can cause unwanted tensions to transfer to the neck, throat, and jaw. The better one maintains constructive alignment, the easier it is to use the more effective lower part of the abdomen to exhale.

Exhalation Perspective #2 (Conable)

The trachea, often called the windpipe, lying just under the skin in the front of our lower necks, is merely a passageway for air on inhalation. On exhalation however, its specialized top portion, the larynx, which contains the vocal cords, interrupts air and if we choose, sets air vibrating. This vibration results in singing or speaking or any other sounds humans are capable of making.²⁸ Ribs have their excursion in breathing and the diaphragm has its excursion. The excursion of the diaphragm takes it from a highly domed position to a less domed position, thereby increasing the vertical dimension as well as the diameter of a singer's midsection upon inhalation. On exhalation the diaphragm returns to its highly domed position in preparation for its next excursion downward and outward. Just as the ribs make their full excursion

²⁸ Conable, Barbara. *The Structures and Movements of Breathing*. GIA Publications. Chicago, Illinois, 24

down and in, so must the diaphragm make its complete excursion to fully domed if breathing is to be perfect for singing.²⁹

Exhalation Perspective #3 (Thurman and Welch)

After inhalation the outward breathflow and soundflow begin simultaneously, with no holding of air between inhalation and the start of the vocal sound. The lower abdominal and ribcage muscles begin a balanced compression of the lungs that sends airflow upward through the windpipe to “energize” the vocal folds into a ripple-like wave of vibratory motions. When the lower abdominal muscles engage, there will be a slight outward bulge in the upper abdomen located just under the lower rim of the ribcage. This bulge is a sign your diaphragm muscle has simultaneously co-contracted with the abdominal muscles. The co-contraction of the abdominals, diaphragm and ribcage muscles make possible fine-tuned adjustments in the pressurization of lung-air that enables subtle variations of vocal volume.³⁰

Exhalation Perspective #4 (Roger Love)

As we exhale, the body is designed to allow the stomach to fall easily back to its normal position. It doesn't take muscle to exhale, just relaxation.³¹ A large proportion of speakers and singers feel they must push the air out. For many,

²⁹ Ibid. 32

³⁰ Thurman, Leon and Welch, Graham, ed. *Bodymind and Voice: Foundations of Voice Education*, II, 345

³¹ Love, Roger. *Set Your Voice Free: How to get the Singing or Speaking Voice You Want*. 1999. Little, Brown and Company. New York. 39

exhaling is like wringing the air out of their bodies. Many singers work too hard to exhale. Especially when speaking or singing in the upper range, many unknowing vocalists move into “weightlifter mode” and tighten the muscles and the larynx, making it much more difficult to produce sound. The faster and more forced the stream of air comes at the vocal cords, the harder it is for them to regulate the sounds they produce. Power, range and consistency depend on smooth, even air flow, not bursts of supercharged breath.³²

Everyone has experienced how forcefully the body can make air leave the body through coughing and sneezing. When the body tries to clear its air passages of obstructions, it automatically tightens the group of muscles located at the top part of the stomach in the center of the chest where the ribs come together. Tensing this spot can create pressure strong enough to expel a foreign object from the body with more than ten times the force of normal exhalation. That pressure is called the Valsalva principle³³ and it’s the same feeling people feel when straining to force a bowel movement. This is not good for the body! Tensing these muscles blocks one’s access to the full use of the voice.

Applications of Breathing in a Choral Setting

1. Have your choirs sit in their chairs and hunch over with their arms hanging loosely. Their fingers will touch the ground. Have them breathe “into the back” on a slow count of four, hold in the air for four counts, identifying that

³² Ibid. 41

³³ Love, Roger. *Set Your Voice Free: How to get the Singing or Speaking Voice You Want*. 1999. Little, Brown and Company. New York, 39

the breath truly felt like it was expanding the lower back, and exhale slowly over eight beats. (I would not suggest exhaling on “shh” as that creates jaw tension as one forms the “shh” with the lips, teeth and jaw. Rather, use an unforced “hiss” or “sss” as the jaw is less involved or simply say, “exhale through a McDonald’s straw- which is thicker than most straws” having them gently pucker their lips, exhaling freely.) Explain that they are filling up containers from the top down, and that lungs can inflate three-dimensionally. As containers, lungs have height, width, and depth. Do the exercise with counting and vary the numbers- 4 counts in, 2 counts hold, 4 counts out; 8 in, 8 hold, 4 out; 2 in 2 hold, 12 out, etc.. Explain that they are using much more of their lungs and how the ribcage expands and “relaxes” (versus “contracts”) easily and effortlessly.

2. When you have a small number of members in your school group lessons, sectionals or chamber choir rehearsals, ask them to bring a yoga mat or pillow on which they may rest their knees, allowing them to get on all four’s. This activity would suit the church choir members who always arrive early to the weekday rehearsal or Sunday morning warm-up (these folks do exist!).
Perform the breathing exercises from #1 on the yoga mat or pillow.
3. In a large choral setting, have your members place one hand on their abdomen (some think this is the “tummy”) and the other hand on the lower back (the back of their hand should touch the lower back directly). Do the breathing exercises from #1.

4. Find a partner and experiment with some common but inefficient inhalation patterns. Carefully monitor the chest and abdomen during these experiments³⁴:

- Take a breath with the “tummy” held in tightly.
- Take a breath with the back held rigidly.
- Take a breath with the back overly arched (but not too exaggerated).
- Take a breath while slouched in a chair/pew.

Have the singers answer these questions: What happens to the body when you take breaths in those ways and then sing a melodic line? What happens to the quality of sound? Into what physical pattern does each exercise force the action of breathing?

Next, feel the difference in the vocal tract and chest when you inhale low in the body with good alignment and a released head and neck. Describe the difference in how you may feel and look, and have your partner do so in return. Does this change the vocal quality?

Making the Exhale Easy

Singers must be trained to go from “rigid to rag doll” upon exhalation.³⁵ Upon inhalation, there are muscles flexed and the body is poised to release air. This “rigid” feeling turns into a released, boneless, easy, relaxed or “rag doll” feeling upon exhalation. When exhaling, keep a hand resting on the stomach and be conscious of

³⁴ Bunch, Maribeth and Cynthia Vaughn. *The Singing Book*. 2004. W.W. Norton and Company. New York, 255

³⁵ Love, Roger. *Set Your Voice Free: How to get the Singing or Speaking Voice You Want*. 1999. Little, Brown and Company. New York. 41

the muscles tightening. Massage the muscles softly as you exhale to remind them to relax. If needed, beginners can also help the muscles inward by pushing gently with a hand, which creates less pressure than using the abdominal muscles. Remember, the goal is not to *pull* anything in. Just *allow* the stomach fall to its neutral position.

Personal Perspective and/or Reflection

When speaking about making the exhale easy, Roger Love uses the phrase “rigid to rag doll.” As a trained singer, I know what he is trying to describe but would caution against using this description as the only example. I am not sold on this concept because “rigid” to me, implies tension rather than support. “Rag doll” implies no support whatsoever on the exhalation, when in fact muscles are activated and flexed during exhalation as it supports the sound production. It is important to have an easy feeling while inhaling and exhaling, but it is also important to understand that muscles are involved and active during both actions. When discussing muscle activity with beginning singers, it is important to use a word like “flex” rather than “squeeze” or “clench” because amateur singers tend to have tension when they “squeeze” something.

An Example of a Vocal Warm-up in a Choral Rehearsal

Now that we've talked about the voice and breathing, it is time to think about applying this knowledge to an actual warm-up for a rehearsal.

Once the body is warmed up, then we can expect the voice to follow. It's like learning music: If the notes and rhythms aren't in our bodies, they will never be in the voice.

Begin in the middle part of the voice around E3-G3 for most adult men, and the same up the octave for women and sing purposefully easier vocalises- (1!), 2, 3, 4 or 5 note scales- telling them, "This is the time to warm up the voice and work on technique and breathing." It doesn't make sense to sing more involved melodies that require more listening when their voices, brains and bodies are not ready.

Start in the middle to lower part of the voice. I often use D major to start with high school and adult choirs. D major is not too low for sopranos and tenors (some younger tenors, or men with a higher tessitura may have a problem, but you can identify them when you audition and test your singers individually at the beginning of a term).

I usually bring them up to a perfect 4th or 5th above the D, and then work my way back down from there, always keeping them engaged in the warm-up. I am constantly assessing and coaching and teaching, encouraging spacious, high, and forward vowels, optimal resonance, and healthy singing. The warm-up time is a mini-voice lesson for your choir. Bring the lower voices down past middle C, an octave below that for the male ranges, and encourage the lower voices to resonate and

not push down in the “basement.” The sopranos and tenors can drop out when they can no longer have true pitch to their core sound.

Once the middle and middle-lower parts of the voice are warmed up, then you can go toward the upper-middle and upper parts of the voice. Use ascending melodies, being conscious of the altos and basses, asking them to drop out when it begins to feel uncomfortable. Monitor your younger tenors carefully so they do not sound like they are screaming.

Range extension warm-ups can easily become unhealthy if we’re not too careful. Use 3-note arpeggios, and then go back using arpeggios that go to the octave.

You can become quite clever in your composition of warm-ups. I would try them out not only on yourself, but also on another choral musician or member of your choir before you bring it to your ensemble, as you do not wish to waste precious rehearsal time!

Chapter 3: Making Sound (Phonation)

Introduction

The initiation of vocal sound is called the onset or attack. For a clear sound, the vocal folds need to touch each other cleanly and gently. This happens when the muscles of breathing, the airflow and the onset of sound are well coordinated.³⁶

Inefficient coordination can also cause the sound to be too breathy. This happens when the folds do not close well and air leaks out. It is acceptable to make a deliberately breathy sound for some pop styles, but a consistently breathy sound reveals poor vocal balance. Do not confuse breathiness and hoarseness!

When you speak and sing, your brain tells selected muscles to do the following³⁷:

- Arrange your skeleton, to which your voice muscles are attached in relation to the force of gravity which has pinned you to the earth;
- Breathe a supply of air into your lungs;
- Close your vocal folds to trap air inside your lungs [in everyday language, your vocal *folds* are your vocal *cords*; they are located inside your larynx, commonly called the *voice box*.]

³⁶ Bunch, Maribeth and Cynthia Vaughn. *The Singing Book*. 2004. W.W. Norton and Company. New York, 266

³⁷ Thurman, Leon and Welch, Graham, ed. *Bodymind and Voice: Foundations of Voice Education*. II, 305

- “Squeeze” on your lungs to “pressurize” the air therein, so that the air streams up between your vocal folds to set them in complex ripple-wave motions that are called *vocal fold vibrations*;
- Produce many subtle coordinations in your larynx, which result in the creation of sound waves that transmit pitch changes, loudness variations, and your larynx’s contribution to what your voice sounds like- your voice quality or timbre;
- Shape your mouth in many different ways, which affect the way the air molecules compress and expand in chain reaction sound waves; those effects also contribute to your voice’s overall sound quality, and also create the sound qualities that are called vowels and consonants.

To initiate vocal sound, a singer breathes air into the lungs, closes the vocal folds, and compresses the lungs to pressurize the air in them. When the degree of vocal fold closure and the pressure underneath reaches a certain relationship, lung-air begins to flow out between the two vocal folds. The pressurized motion causes the vocal folds to move quickly, in a ripple-like motion. This motion is referred to as vocal fold vibrations. These vibrations are the originating source for vocal tone production.³⁸

If singers learn the fundamental skills of expressive singing and speaking, then they can have their vocal destiny in *their* hands. Learning them begins with what the voice

³⁸ Thurman, Leon and Welch, Graham, ed. *Bodymind and Voice: Foundations of Voice Education*. II, 321

feels and sounds like when one speaks and sings with physical acoustic efficiency.

One can come as close as humanly possible to³⁹:

- Using only the muscles that are necessary, and releasing those that are unnecessary;
- Using the necessary muscles with only the appropriate amount of energy- not too much and not too little- for the vocal task at hand;
- Optimally releasing your vocal sound waves through your vocal tract.

³⁹ Ibid. 305

Voice Quality and Resonance

Introduction

Without spending a great deal of time on sound waves and how they are constructed, I will assume the reader has basic knowledge of what sound, fundamental vibrations, partials, and sound waves are. If that is not the case, please refer to Thurman and Welch's, *Bodymind and Voice* text listed in the bibliography of this document.

People use the term *resonance* or *resonation* in several ways. An everyday, colloquial use would be, "What you said is in resonance with my thinking"- a metaphoric use of the term.

A musical use would be, "She has a resonant voice." In this context, *resonant* usually refers to a tone quality in which the lower partials (lower vibrations) of a tone have been noticeably amplified.

There is an interesting pedagogical concept to consider when discussing the concept of resonance whether it pertains to the solo or choral singer. As choral conductors, we are taught to achieve the "appropriate sound" for the music style or the historical period in which the music was written- a brighter, cleaner sound for Renaissance; a more resonant and dark sound for Romantic music, and so on.⁴⁰

Your larynx can produce four basic voice quality families:

1. The whisper-noise family
2. The breathy family
3. The pressed-edgy family
4. The clear and richer family

⁴⁰ Haasemann, Frauke and Jordan, James M. *Group Vocal Technique- The Workbook, The Vocalise Cards*. 1991. Hinshaw Music. Chapel Hill, NC, 66

These voice quality families are created primarily, but not exclusively, by different degrees of vocal fold closure force that is enacted by our “closer and opener muscles,” working in their protagonist-antagonist relationship.⁴¹

How is Resonance Created? Perspective #1 (Haasemann)

In the case of the human voice, the vibrations begin in the larynx and are picked up in various parts of the body, principally the head and chest. Everyone’s body is structurally different, so the vibrations created in the larynx and the amplification in the head and chest will also be entirely different. A singer works to make the most of the possibilities for resonance in his or her body. What possibilities that result depend upon the body itself and the singer’s ability to utilize his body’s own characteristics to full advantage.

How is Resonance Created? Perspective #2 (Thurman and Welch)

The vocal tract- throat and mouth (including the lips)- form a curved tube that is opened at one end (the mouth) and closed at the other, with a vibrating sound source at the closed end (the vocal folds). The size, shape, and to some extent, the density of the vocal tract walls can be “shaped” in a multitude of overt and subtle ways. How the vocal tract is shaped determines which of the voice’s sound wave partials will be amplified, damped, and/or unchanged, and is referred to as the “resonating space” or the vocal resonator(s).⁴²

⁴¹ Ibid. 422

⁴² Thurman, Leon and Welch, Graham, ed. *Bodymind and Voice: Foundations of Voice Education*. II, 323

The resonating effects of your vocal tract can be compared a sound wave passing through a series of linked containers, each with a different shape and size. So, when the vocal tract is “shaped,” it functions as though it was a series of containers, creating several resonance frequencies. Just as larger “boxes” that are attached to strings will amplify the strings’ lower partials more and produce a comparatively fuller perceived sound quality, so larger vocal tracts will amplify the lower partials that the vibrating vocal folds have produced, and a comparatively fuller voice quality is perceived. The same holds true for smaller “boxes,” etc., and brighter voice quality can be perceived. This is a large reason why humans have unique “vocal signatures,” or sound qualities.⁴³

Vowels- The Foundation of Vocal Sound

When we attend an opera, what does the average listener listen for? Duke Ellington is famous for saying, “If it sounds good, it is good.” Listeners who have no formal musical or vocal training are still able to recognize when something sounds “good.” This good or not-so-good quality, in my opinion is mostly decided by the quality and resonance of vowels, in vocal production. The foundation for vocal, and thus, choral sound is vowel production- how they are formed and how they resonate.

The building blocks of languages are vowels and consonants. Without vowels there would be no way of sustaining sound (except for humming). Consonants enable us to define sound and communicate meaning and language.

The position of the tongue, with some help from the lips, is mainly responsible for shaping the vocal tract and creating the resonances that are recognized

⁴³ Ibid. 324

as vowels.⁴⁴ Fine movements of the tongue and its position within the mouth create all the vowels and their various hybrids.

Personal Perspective/Reflection

It is important to note that many choral conductors unknowingly teach the proper formation of vowels incorrectly to their choirs. Often, discussion of only the mouth, lips, and jaw take place, totally omitting the truest means by which we form vowels—the tongue placement, which affect the size of the resonating chamber, or the vocal tract.

“Put four fingers stacked on top of each other in your mouth in order to sing a proper [a] (“ah”) vowel is absolutely defeating in any attempt to build resonance. Excessive dropping of the jaw and contorting the face will only distort the shape of the pharynx and hinder optimal resonance!

Application of Vowel Production in a Choral Setting

Encourage your singers to find their own optimal resonance, as each person’s vocal makeup will be individually different. Use terms like, “vertical,” “spaciousness behind the vowel,” “tall,” “roomy,” and use colors and references to food like, “rich,” “brighter,” “chocolate-y,” etc....

I recently observed an applied voice lesson at James Madison University where the instructor used the word “creamy” to describe the vocal color and/or texture, the student was trying to emulate. I love that word choice because it’s so sensual; one can taste it or visualize the silkiness of it.

⁴⁴ Bunch, Maribeth and Cynthia Vaughn. *The Singing Book*. 2004. W.W. Norton and Company. New York.

The discussion of verticality and spaciousness in vowel formation will be an on-going occurrence for beginning singers, and thus, physical cues such as taking the right hand and show verticality by flattening the hand and turning the thin side to the choir while placing it in front of your mouth.

Developing Vocal “Core” in Choral Sound

As choral conductors, what is it that we’re really listening for in our singers? What vocal principle is, indeed, our only “window” on the voice? What concept allows us to diagnose vocal problems?

The ability of a conductor to understand, listen for, and most importantly, to teach resonance (core) will determine the relative success or failure of attempts to build choral sound.

How so?

When a conductor hears a choir, he is hearing resonances. Whether he listens to an individual voice or an ensemble of voices, he hears resonances. The sound a conductor hears for Renaissance music is, in fact, an ideal preconceived sound or resonance that he would like to hear for the style of that particular time period.⁴⁵ The outstanding voice teacher in the studio is one who can work and refine the concept of resonance. In a choral setting, a conductor’s task is to make the production of resonance more efficient as a corporate choral body of sound rather than a collection of individual bodies of sound.

⁴⁵ Haasemann, Frauke and Jordan, James M. *Group Vocal Technique- The Workbook, The Vocalise Cards*. 1991. Hinshaw Music. Chapel Hill, NC, 66

Applications of Developing Core in Choral Sound

The concept of face or frontal resonance should be discussed first. When resonance involves the vocal mask- the front part of the face in which we “place” our resonance, the tone will be free and well focused. Remember, nasal resonance should be in the sound, but the sound should not sound nasal, or as if came through the nose! (This is an extremely important concept to understand and teach well!)

Personal Perspective/Reflection

I am constantly requesting vowels to be more “spacious, high and forward,” as, when comparing ourselves to a European accent or flavor, Americans tend to have vowels that are placed too far back or “swallowed” because of our lazy speech patterns and regional dialects. (This being said, it is the more forward placement of speech and singing that Europeans inherently execute that is our goal, as singers.) The incorrect placement can also be blamed on improper listening. In my experience, amateur choirs and young singers are able to hear and imitate singing with lower resonance, but do not hear the upper partials within the tone. These upper partials, for example, enable an opera singer to project over an orchestra and to be heard in a large concert hall. If an opera singer used only lower resonance, her sound would not be heard over the orchestra. Frontal resonance must also be present, as that is what gives a singer’s sound the “bite” or the “cut” it needs to be heard over those forces and in that arena.

In the United States, I have found the [a] (ah) vowel to be too dark and placed too far back in the throat, creating a “swallowed” sound. It is so important we

encourage our choral musicians to develop frontal resonance and lower fundamental resonance at the same time, instead of only one or the other.

In my experience, I see and hear students using only fundamental or bottom resonance, as they may be imitating their voice teachers or recordings of their favorite opera singers. These models are older in age, more trained, vocally more mature and are excellent models as long as listeners are listening for BOTH frontal and lower resonance. I have found that young and/or inexperienced singers do listen and pick up the lower resonance, but are not refined in their listening to pick up the “cutting” ability that comes from proper frontal resonance.

Applications to Build More Frontal Resonance in a Choral Setting

The discussion and teaching of resonance or placement is often forgotten or “avoided” during choral rehearsals for a number of reasons, not forgetting the legitimate reason that a conductor may know absolutely nothing about it.

As a trained vocalist, I am able to vocally model for my choirs so they can have immediate and frequent access to hearing the correct and incorrect example. An untrained singer can fix the same problems by using the applications below.

If your choir sings with a “swallowed” tone color that is too dark and placed too far back, encourage your choir to:

1. Echo various sentences modeled by the conductor produced in a very nasal manner or “through the nose.”
“Hi, how are you today?” “Please, have a seat.” “I’m fine.”
The “hi” has an “h” to get the airflow moving, and the [a] (ah) vowel is immediately more forward. From an ugly tone, keep the forward placement, and place the sound behind the nose, not through it, constantly reminding them to keep the sound spacious, high and forward.
2. Echo various sentences modeled by the conductor that are “swallowed,” nasal, and “correctly placed.” If the conductor feels uncomfortable doing this, or is unable to do this, find a willing member of the choir who will be your model, and meet with him prior to the rehearsal.
3. Pretend they are biting into an apple and notice what the cheekbones, lips, teeth, tongue and jaw do to prepare. Breathe in during this thought, and “bite” into a short melody or scale.

4. Sing easier scales or melodies on a nasal [hai] (hi) knowing that a more ugly tone quality will surface. Then, ask them to sing [hai] (hi) with forward placement, NOT through the nose.

Vibrato

As beginning singers develop an easily produced sound they often feel and hear their voices become pulsating and “wavy.”

The vibrato is an acoustic phenomenon that occurs in most voices. These waves can be fast or slow (frequency), deep or shallow (amplitude), and narrow or wide (variance)- much like the ripples in water. They typically add beauty to the sound and are acceptable to the ear as long as they vary no more than a quarter of a tone on either side of the pitch. Vibrato with an amplitude that is too wide will produce a sound that varies too much around the pitch and is unpleasant to the listener. (This is also a reason why many singers sing “out of tune.”⁴⁶) A voice or acoustics lab can show how all the variants of the vibrato look spectrographically, and research has shown that the ear prefers a vibrato that occurs from five to eight times per second varying a semitone around the pitch.⁴⁷

When the waves of sound are too fast, and too close together, this is a sign of “pushing the voice out,” rather than “enabling” or “allowing it to happen.”

When the waves of sound are too slow and wide, a “wobble” is heard. This can be caused by a number of factors from poor breath management to muscle fatigue. Please note that it is not useful for the singer to think of controlling the vibrato.⁴⁸ The keys to even sound are quality alignment, efficient muscle use, deep breathing, and consistent airflow.

⁴⁶ Bunch, Maribeth and Cynthia Vaughn. *The Singing Book*. 2004. W.W. Norton and Company. New York, 267

⁴⁷ Bunch, Maribeth and Cynthia Vaughn. *The Singing Book*. 2004. W.W. Norton and Company. New York, 267

⁴⁸ *Ibid.* 268

The ideal vibrato has consistent and even acoustic waves. Mind you, these even waves are not going to be perfect as that would result in an inorganic or robotic sound, so there will be some flexibility in the vibrato, which will cause the sound to be more organic or have more “life” and beauty in it.

Straight Sound (Bunch and Vaughn)

Some types of music call for less vibrato and more focus to the sound. There is nothing wrong with a straight sound as long as it is not blatant, strained, or tight. Every singer needs variety of sound and expression.

In establishing choral sound, choral conductors find it difficult to get a balanced color when/if there are so many diverse- or even out-of-control- vocal techniques in the choir.

Personal Perspective/Reflection

I loved Bunch’s ideas about the delicate and often touchy topic of vibrato. I have never heard the term “straight sound” until I read this text. “Straight-tone” is the most commonly used term for the vocal sound quality that is described as having “less vibrato” or a “leaner, lighter or more pure quality.” I try very hard to never use the term “straight-tone” when conducting choirs. This term has been used in astonishingly poor ways, and most often causes a negative reaction among students and voice teachers. In my experience, I have found that the idea of “straight-tone” has a negative connotation and is often frowned upon by voice teachers because, if not taught properly this technique will cause strain on the voice. “Straight sound” gives me a broader palate from which to choose in that when I hear “tone” I think of

something narrower than “sound.” When singing correctly inside of a choral sound body, a singer is physically and psychologically free, not having to worry about manufacturing a particular tone quality. Singers can achieve a stronger, quieter, leaner or thicker color if they always begin from a healthy vocal standpoint in their sound production. “Straight sound” is an alternative word choice that can be used to achieve the same goal as “straight-tone” without actually saying it, and with a healthier approach.

I will ask for “less” vibrato rather than “no” vibrato. Sometime I will ask for a “leaner/thinner color” or “more focus in the tone.” Used consistently, these few examples do the trick.

Typically, conscientious choral musicians will do what they are asked, but there will be members who do not make any vocal adjustment. The result is the straighter tones to begin with become even straighter and the voices with vibrato will have their vibratos increase, thus defeating the purpose!

I agree with Bunch in that a conductor’s consistent quality voice training will cause many of the issues of vocal imbalance to go away.

Healthy Singing

Healthy Singing Perspective #1 (Bunch and Vaughn)

A balanced, free, and flexible posture is fundamental to efficient vocal production and lovely voice quality. The alignment of the breathing mechanism- the chest, the voice box (larynx), and throat (resonator)- is the starting point for healthy singing.

Singing Easily

Three-fold Approach:

1. Mental- techniques for visualization, focusing for success, and basic knowledge
2. Physical- focusing the body and mind through exercises that create balanced left-right brain functioning and that work with effective concepts of postural and physical awareness.
3. Creativity and Imagination- experiment with vocal improvisations, vocalize scenes, develop characters based on pieces' texts, and even sing the poem, book, text aloud as they read.

Maintenance of a Healthy Voice

Perhaps both the best and worst perk of being a vocalist is the fact we house and maintain our built-in instrument, constantly. Singing is physical, and a full-bodied experience. We are vocal athletes, and like all athletes, we must take care of ourselves physically, mentally, emotionally, and especially, vocally. Everything we do- eating and diet, drinking (both alcoholic and non-alcoholic beverages), exercise,

rest, sleep, talk, whether we wear a scarf in the winter- affects the voice. It takes special care and discipline for any level of vocalist to maintain vocal health and stamina.

Chapter 4: Areas of the Voice

Introduction

Within one's entire capable pitch range, there are several pitch regions that have distinct sound qualities. Typically, when one makes sounds in their lower pitch range, then makes sounds in the higher pitch range, the voice quality will be different.

When one slides or sings from a higher pitch area to a lower pitch area, there will be a sense of one or more shifts or changes of function in the voice quality.

There are various areas of the voice in which we phonate (the act of singing-see Chapter 4). Some refer to the different areas of the voice as "registers," and often labels like, "chest voice," and "head voice" are used.

Over the centuries, experienced observers of speaking and singing have detected patterns in these pitch-region voice quality changes (vocal registers).⁴⁹

Why?

People tend to form habitual larynx coordination patterns, and singing and speaking teachers tend to form language-bound concepts about (1) the nature of the voice quality changes, and (2) the pitch areas where their transitions occur. Because such changes occur under a wide variety of vocal circumstances and at different pitch areas in different people, the variety of verbal descriptions has been varied at best, and often conflicting.⁵⁰

⁴⁹ Thurman, Leon and Welch, Graham, co-ed. *Bodymind and Voice: Foundations of Voice Education. Book II.* 2000. The VoiceCare Network. Minneapolis, MN, 422

⁵⁰ Ibid.

Personal Perspective/Reflection

It is important to note how different one's speaking voice and one's singing voice can be in relation to the areas of the voice in which they speak or sing. Most people speak in or near their lower vocal register, depending upon influences such as their cultural upbringing, or regional speech patterns and dialect. That is, the stereotypical person from the southern United States tends to speak slower and lower than those from the north. The stereotypical woman from England tends to speak in a much higher part of the voice. I have heard people say, "the higher the social status and/or education, the higher the pitch in which they speak." These are of course, generalizations, but it is important to know this way of thinking exists.

Speaking about Areas of the Voice in a Choral Setting

I would like choral directors to refer to the different registers of the voice as "areas" rather than "registers" or "breaks" or "shelves" or anything that indicates a disconnection from one another. There is potential psychological damage if careful attention to terminology is not given!

When discussing the voice areas with younger singers, words like, "break," or "cliff/shelf," can lead to "psychological mismapping," as I call it, of how the voice works throughout all ranges. Anatomically speaking, there are no breaks or shelves within your vocal tract, so this terminology can further remove your singers from understanding the voice, and cause them to imagine vocal hurdles to get "over" when approaching their upper voice from below.

Careful consideration of terminology and instructions such as, "Some steps taken to sing in 'x' area of the voice are as follows...which may not work for

everyone because we are different in subtle ways,” and, “The feelings one could feel as one approaches the ‘x’ area of the voice are...” are imperative within every rehearsal. I encourage every conductor to be able to explain the topics discussed in this document in a variety of different ways, catering to different learning styles.

Perspective #1 (Bunch and Vaughn)

Sometimes in inexperienced singers, the lower voice will seem rich and strong and the upper voice will sound small and thin. In these inexperienced singers the change in quality can be obvious. This happens when the highest and lowest areas of the vocal range are not connected by smooth coordination of the vocal mechanism.⁵¹ In a choral situation, a classical style of singing with a smoother connection between vocal ranges is desired. Consistency throughout is less important for non-classical singers who happily use a much greater variety of vocal sounds in their singing. Pop singing, jazz, gospel, and other styles are not as concerned about equal vocal quality throughout.

The differences in sound throughout one’s vocal range are called vocal registers. A balanced voice produces a sound that is even from the bottom to the top of the singer’s vocal range.

It is important to understand that most people have a speaking voice that is close to the lowest pitches of the voice- of *their* voice.

⁵¹ Bunch, Maribeth and Cynthia Vaughn. *The Singing Book*. 2004. W.W. Norton and Company. New York. 266

Perspective #2 (Kenneth Phillips)

It is possible to phonate in at least three vocal registers. These registers typically correspond to the lower, middle, and upper singing ranges.⁵²

Changing the shape of the vocal folds varies the pitch of the voice. Pitch in the lower register is produced when the vocal folds are shorter and thicker. This action is caused by the contraction of the thyroarytenoid muscles within the vocal cords. Pitch in the upper register is produced when the vocal folds are longer and thinner. This action is caused by the contraction of the cricothyroid muscles, which are located at the base of the larynx.⁵³

Perspective #3 (Thurman and Welch)

The *basic* voice quality families are all intermarried with another family tree of voice qualities that are commonly called *vocal registers*. Two voice quality families are by far the most commonly used vocal registers. They are associated with the upper and lower pitch ranges.

The major areas of the voice are the **Lower Register/Chest Voice**, **Middle Register**, **Passaggio/Transitional Area**, and **Upper Register/Head Voice**. The term **Falsetto** labels the highest part of the voice for men that “sounds like a woman’s, small child’s, or Mickey Mouse’s voice,” and the area lower than the *whistle tones* for women.

⁵² Phillips, Kenneth H. *Directing the Choral Music Program*. 2004. Oxford University Press. New York, 236

⁵³ Ibid.

Perspective #4 (Frauke Haasemann)

There is general disagreement among voice teachers concerning vocal registers.

Their locations in the voice and portions of the range that they occupy are open to discussion. These registers also vary from voice type to voice type. Properly trained from childhood, a singer will not exhibit any register problems if the head tone (the sounds produced in the head voice) has been properly taught and cultivated, or there are no audible breaks in the voice throughout the range. For the majority of amateur singers, however, there are very real problems. The problems are somewhat basic and generic across all voice types. Unless amateurs possess natural talent, women more often than men will need assistance to find their head voice. Consequently, many sing in a voice that is all or predominantly chest voice. The chest voice tends to occupy a more limited range, and many times amateur singers attempt to carry the chest voice higher and higher until they reach a point at which they say, “I can’t sing that high.”

In most cases, the singer has emphasized the chest register at the expense of the development of a healthy head voice. It is the goal of all voice instructors to eventually develop the skills of their singers so all registers will be mixed and the transition from one another will be smooth.⁵⁴

⁵⁴ Haasemann, Frauke and Jordan, James M. *Group Vocal Technique- The Workbook, The Vocalise Cards*. 1991. Hinshaw Music. Chapel Hill, NC, 85

Lower Register/Chest Voice/Low Voice/“Belting Voice”

During the Middle Ages, singers thought their voices came from different places in their bodies.⁵⁵ When they sang in their lower pitch range, they felt prominent vibrations in their upper chest, so they learned how to “place” their voice there. That voice was named *chest voice*. At the present time, *chest register*, *modal register*, or *heavy mechanism*, are terms used by various voice professionals to label this part of the voice.⁵⁶ The essential tone quality of this register, when compared to the essential quality of the upper register, can be described as *thicker* and *more full-bodied*.

⁵⁵ Thurman, Leon and Welch, Graham, ed. *Bodymind and Voice: Foundations of Voice Education. II*, 422

⁵⁶ *Ibid.* 437

Passaggio/Transitional Area/Middle Voice

I would like voice teachers and choral directors to avoid using the word “break,” and substitute it with, “area.” The *passaggio* is an area of the range that is transitional or bridges the “head voice” and the “chest voice.” I think of a train track that needs to switch to another track, and the *passaggio* is the part of the track that is able to tilt/move/adjust to connect the voices or “tracks.” I envision this *passaggio* (or *transitional area*) as a “connector track” that is flexible and curved and receives one side of the track and provides a smooth passage to the other track that is heading toward a different destination. This “connector” is moveable and flexible and can easily merge the lower track to the upper track, making a seamless transition from one to the other, from either direction (up/down, down/up).

Personal Perspective/Reflection

A choral conductor and voice teacher should not hesitate to discuss this part of the voice- especially with males, frequently and in an open manner. Often, discussion the *passaggio* is neglected or completely avoided because studio teachers and/or choral directors are not clear about it themselves. If we present this area of the voice as something other than, “a difficult thing to master,” or, “...this is hard,” then choristers will not be afraid to experiment by themselves. *Choral Directors must enable and encourage choristers to experiment by themselves, outside of rehearsal.*

“How do I describe what it is or how it feels if I cannot do it or feel it?” is a common question and concern of an untrained vocalist. The *passaggio area*, as I call it, allows a singer to manipulate the middle-upper range, accessing the upper

voice, or head voice, living up to its fundamental title- the “passageway.” This *transitional area* may be most easily mastered with exercises that begin from the lower range to the upper range. Some individual singers will prefer to begin from the head voice/falsetto areas and move through the *passaggio* into the lower range. It is important to encourage your singers to experiment with this as individuals in the shower, during their commute, and certainly while warming up.

Application of Passaggio in a Choral Setting

State that the breathing muscles always need to be connected, for starters. I cannot stress enough that you should encourage your singers to approach the upper range lightly, allowing for a smooth transition. They may resist! Expect this: Yes, they will lose power and volume, the vowel will need to be modified, their sound will sound smaller to them, and they will feel a loss of control at first- and maybe for a while- but the pitch will remain intact and the quality will remain favorable. Over time, they will become more comfortable and will be able to count on the feeling of this *transitional area*.

With male voices, a choral conductor should focus upon approaching the *passaggio* from above, using the falsetto area of the male voice as a starting point. Have the men sigh on an [u] vowel (the brackets indicate the *International Phonetic Alphabet*, or, *IPA*, for “oo”) from high to low, asking them to take their time through what they think could be their *transitional area*. (In my experience with younger tenors, their transitional area could be from B3 to G4, and basses could be from G3 to F4. With adults, it’s difficult to comment on a consistent pattern, especially for those

adults who do not sing more than your one rehearsal or one service each week. A good source for specific ranges in male voices from boys to men is the text, “Working With Adolescent Voices,” by John Cooksey, listed in the bibliography of this document. He lists actual pitch ranges in vocal registers of boys; changing boys, mature boys, etc..

When a Choral Conductor focuses upon approaching the *passaggio* in male voices from below, begin in the lower register on an [i] (“ee”) vowel and sigh from low to high, asking them to take their time through what they think could be their *transitional area*. As they get higher, ask them to open and modify the vowel towards an [I] (“ih”) vowel, keeping [i] (“ee”) resonance, of course.

Remember, this is a *transitional AREA*, rather than using terms like a shelf, or a ledge, or a drastic break somewhere in the connection between the upper voice and lower voice! If you hear your singers “crack” upwards or downwards with sudden and abrasive changes between registers, remind them that is not what they are supposed to be going for. A seamless, smooth transition between voices is the object. The *transitional area* needs to begin sooner than the “point” or “single note” they feel is the ONLY place the voice shifts. You must approach the *transitional area* carefully, and start the approach prior to the area where the voice feels like it is “changing tracks.”

This will be difficult for many! Expect this and praise them for small steps.

If a Choral Director does not talk about the *passaggio* with men especially, untrained singers will try to bring the weight of their *chest-voice* up to the top of their range causing heaviness in the tone, an over-darkening of the tone, a

pushed quality to the tone and certainly an intonation problem. We must encourage singers at all levels to sing freely and openly and not to force or push their sound out. We can ask them to support and control the breath all we want, but until they recognize what that *transitional area* feels like, then they will approach the middle-upper voice with too much weight from below and will never be able to tap into their head voice through the *passaggio*.

Remember to video/audio record your rehearsals, enabling members of your choir to hear themselves individually, or as a choir.

Personal Perspective/Reflection

The first time I truly felt the “bridging” feeling or “connection” from *high-voice* to *low-voice*, I was in the shower! I was warming up and was sighing from the top down and then from the bottom up. I felt it happen from the bottom up first and then mastered it coming from above.

When connected to the *head-voice* through the *passaggio*, my ears, vocal mask and head resonate sometimes, more so on the most forward placed vowels such as [i] (“ee”), [e] (“ay”), and [I] (“ih”). When I feel I’m connected best, the fluid in my ears begins to resonate and causes noise in my ears. I think a “pseudo-lightheaded” feeling could describe how it feels when experimenting, as well. Again, a “loss of control” may be felt and singing in this *transitional area* for the first time will feel much different. Your singers will need to trust your assessment of their singing. Better yet, record them on a mini-disk player and give your choir instant feedback through stereo speakers! Ask for multiple “takes” of a particular section of

a piece that approaches this *transitional area*, trying the incorrect techniques and correct (“newly found”!) techniques.

Flute or Whistle Area/Register (Females) and Falsetto Area/Register (Males)

Head Register/Head Voice/Upper Voice

At the present time, various voice professionals label this area/register as *head*, *falsetto*, *loft*, and *light mechanism*. When compared to the lower register, the essential tone quality for this area/register can be described as lighter and thinner.⁵⁷ In saying that, it needs to be clear that we shouldn't really call that part of the female voice *falsetto*. Instead, the term *flute register* or *whistle tone area* is used to describe this part of the female voice.

All people with normal, healthy vocal anatomy and physiology are capable of making vocal sounds in a very high pitch range. In females and unchanged boys, the resulting voice quality most resembles the tone quality of a flute, thus the term *flute register*.⁵⁸ When females sing *whistle tones*, these pitches are extremely high, and penetrate the ear in an unmistakable manner- in a good way, if done correctly! In common usage among English-speaking people, the term *falsetto voice* generally refers to a voice quality that is produced by adult males but is female-like and is produced within the female pitch range.⁵⁹ In changed male voices, this coordination of larynx muscles produces the sound qualities that historically have been called *falsetto register*.

Many females are often unaware of this register capability. Its skillful use is often contributed to one's having extraordinary abilities, and is rarely considered when assessing one's vocal range in female or male singers. Its presence means that

⁵⁷ Ibid. 438

⁵⁸ Thurman, Leon and Welch, Graham, co-ed. *Bodymind and Voice: Foundations of Voice Education. Book II*. 2000. The VoiceCare Network. Minneapolis, MN, 425

⁵⁹ Ibid. 439

the *capable* pitch range for all human beings of most ages is at least three to three-and-one-half octaves.⁶⁰

Personal Perspective and/or Reflection

I agree that the head voice is lighter and thinner in many respects, but Thurman and Welch do not seem to discuss the power a singer can have in that part of the voice. While the upper register can feel lighter and thinner, a singer can add significant support and power to the sound production as an opera singer would. A lighter and thinner “feeling” while singing in this register could be suggested, but always remembering that fuller power can be employed.

⁶⁰ Ibid. 425

The Vocal Sigh and Siren

There are hundreds of Group Vocal Technique exercises (in the Haasemann and Shenenberger texts alone) that are useful tools for any choral conductor. **Sighs** and **sirens** are excellent tools to be experienced at the beginning and throughout rehearsals. Vocal sighs and sirens can be used as tools not only throughout warm-ups, but throughout the entire rehearsal as well. It is important that choral conductors identify and explain what they are, how they function, how they are different, and why, so the choral sound heard can be critically analyzed and solutions prescribed. Equipped with the knowledge of the yawn-sigh, the conductor should always present concepts through imagery and real life experiences.⁶¹

A **Vocal Sigh** should begin on an [u] (“oo”) vowel from the upper part of the voice (encourage falsetto, or at least upper register for men, and certainly head voice for all women) and glissando down in pitch through the **transitional area** into the lower register of the voice. The sigh can be a bit **"off the breath" (or, unsupported) at the bottom of the range**, allowing more air in the tone. It is important NOT to go all the way to the lowest possible pitch one can sing (i.e. the “vocal fry”), as this will cause the larynx to stiffen and “stick,” losing overall resonance, and adding more tension to whatever tension is already present in your singers’ voices! When done correctly, the yawn-sigh will have an open and free quality with no obvious restrictions. The tone quality for a correct vocal sigh is slightly airy.

⁶¹ Haasemann, Frauke and Jordan, James M. *Group Vocal Technique- The Workbook, The Vocalise Cards*. 1991. Hinshaw Music. Chapel Hill, NC, 58

A vocal sigh is an excellent tool that can be used throughout an entire choral rehearsal, and is excellent for several important reasons:

1. It **relaxes the larynx**, which is especially good if your singers are using poor vocal technique, or if it's during a long rehearsal with singers who use proper technique. When singing, the soft palate is raised and the larynx tilts at a slightly lower angle than while at rest, creating more space in which to resonate. This space should be created while sighing.
2. It **touches a singer's entire vocal range**, acting as a friendlier, first warm-up, and encourages them to explore different parts of their voice in which they may not "normally" dwell.
3. Like a "good" yawn, **it relaxes the entire body**, sometimes causing shivers, acting as a great "first stretch" at the beginning of the warm-up, and throughout a given rehearsal.
4. It **allows a conductor to assess** how warmed up the singers are by listening to the amount of resonance in their *sigh*, and whether you can- or should- move on with your warm-up and/or rehearsal.

The **Vocal Siren** has more pitch and is more "**on the breath**" (**supported**) than the **sigh**. It can be used during a warm-up as a means to strengthen the voice through the middle and upper areas, especially.

Personal Perspective/Reflection

With Junior High students, I often use *sighs* and *sirens* to explore vocal ranges for both male and female voices. The men may think it's weird at first, but they will eventually get used to it, especially if you explain why it is necessary.

I have students perform **sirens** on a [u] vowel, and then I'll open it to [o], as they approach the upper voice.

It is important they are physically involved with both the *sigh* and the *siren*. For the *sigh*, I have them use both arms and trace with their hands, from the back part of the head, the back part of the vocal tract, up through where the soft palate is raised, and out through the mouth. For the *siren*, I simply ask them to do the same arms for the *sigh* and also include bending the legs when they go in their lower voices, standing on their toes when they approach their upper voice.

Invent a game where your gesture guides them up or down. This is an excellent time for them to get used to your physicality and to recognize that your gesture means something! Change the dynamics, speed, shape, etc....

If Choral Conductors find their men are upset by this “sighing-thing,” I would suggest for them to tap into the local High School or University and bring over a few male members from the choir to help you demonstrate the **sigh** and **siren** from a more trained male's perspective even if it's for, “This is cool, guys...really, and here's why.”

Application of the Yawn-Sigh in a Choral Setting

First, have the choir sigh beginning in the upper part of their vocal register. At the beginning, the [u] (“oo”) vowel is best to use. The choir should be instructed to breathe the vowel and *glissando* from the top of their vocal range to the bottom. Second, before beginning the yawn-sigh, each choral musician should imagine he would smell his favorite flower as he breathes. Immediately after smelling the flower, each choir member should sigh. Lastly, the conductor (or offer it to the choir for ideas) can describe an image to the choir, which will have them think of something very relaxing,⁶² such as a “hot oily bath.”

Again, imagination and creativity will go a long way:

In order to quench a thirst, they drink their favorite drink and sigh after they drink it; after lying down on the most comfortable mattress (with their favorite partner- ONLY WITH ADULTS, please!), they all sigh, etc....

Personal Perspective/Reflection

As time passes, I am becoming more aware of how I’m speaking about areas of the voice. In my opinion, red flags go up when conductors say “top” or “bottom,” as those words subconsciously create an image of a limit (or end) to a singer’s voice. I always refer to a “ceiling-less quality” of a vocal or choral tone color. Approaching singing in the upper range by thinking “I’m climbing higher from below” causes a sense of stretching and reaching which causes tension. As we reach for something that is slightly out of reach, we tend to grit our teeth or stretch our muscles, possibly

⁶² Haasemann, Frauke and Jordan, James M. *Group Vocal Technique- The Workbook, The Vocalise Cards*. 1991. Hinshaw Music. Chapel Hill, NC, 59

exceeding their normal range of use. This over-stretching within the context of singing could be damaging on a physical level, whether approaching the higher or lower range. On a mental level, it is vital that singers employ the idea of a limitless quality to their range avoiding incorrect mental images of “shelves,” “cliffs,” “breaks,” “limits,” “the top” or “the bottom.” More often than not, these mental hurdles within a singer are what usually cause tension, discomfort and poor sound production.

I am constantly reminding choirs to “sing on top of the pitch.” Well, what if they think they are singing the very “top” note in their range? Using this idea to improve intonation would prove impossible; unless a “limitless quality” of one’s vocal range was discussed and employed.

Chapter 5: General Personal Perspectives/Reflections and Ideas

Vocal Development and Consistency in Your Choir

Encourage your singers to sing outside of your rehearsals. For those community choirs that meet once per week it is terribly difficult to find any vocal consistency. Encourage them to study privately or join your church choir! I have offered individual and group voice-building sessions prior to rehearsals for community and church choirs. (At least you get them to truly warm-up before rehearsals!) When conducting the Men's Chorus at the University of Maryland, I gave eight of the original eleven members weekly individual voice building outside of class. Being non-music-majors, they needed this individual attention and my efforts proved to pay huge dividends in the sound, not to mention morale!

Every one of your rehearsals should be a mini-voice lesson at the beginning, during your warm-up. Then apply and reinforce ideas, skills, concepts and tools throughout your rehearsal. When rehearsals are scheduled with days off in between, repetition and consistency on a weekly or bi-weekly basis is vital to establish any kind of choral sound. Use your warm-up to get your choir into the proper mindset of healthy singing and set them up for success by reviewing vocal techniques learned the previous rehearsals. Then, introduce any new concepts you may have for them at that point.

The Role of a Conductor

Conductors wear many hats, indeed. Below are a number of important tasks.

Building A Community

Being in any ensemble is like being in a community or even a family. You all live together in the same place for longer periods of time. You share things. You commiserate with each other. There is an enormous social component of being in an ensemble, especially a choir.

As we all know from our own lives, the sooner small talk ceases the more we learn about our neighbors and ensemble mates. When we know more about our ensemble mates, there is potential to establish a friendship or some kind of relationship, be it collegial, professional, or personal. The sooner an ensemble can establish connections and relationships between members, the sooner music making will become easier, and more frequent. People who know at least a little about each other are less worried about taking a chance, or making an obvious mistake.

It is equally important for the director to get to know his/her members. This knowledge can be used during every rehearsal for reasons ranging from tapping into your members' personal/professional knowledge (perhaps a W.H. Auden scholar is in your choir and you're doing a piece using a W.H. Auden text), to even cracking a joke at someone's expense- of course that someone is someone who can receive the joke in a positive manner- after a director knows he can! Additionally, if the director

knows that a certain alto section leader has a high-stress job with the government he can gauge how hard he may push that singer in any given rehearsal.

Creating A Rehearsal (Music Making Process or MMP) Atmosphere

Creating a positive and open environment where your choir members feel like they can make mistakes, and can be open and vulnerable with you is vital when searching for musical truth together. Establish from the beginning that glaring mistakes during rehearsal will receive compliments rather than criticisms. (I've heard that once is a "mistake," twice is a "trend," and three times is a "habit," so try to nip it at the bud after the first time!) Establish from the beginning that it is acceptable to make mistakes, and that's why rehearsals were invented. Establish from the beginning that rehearsal time (or MMP) is precious time spent together in search for musical truth, and that progress is expected, arriving closer to the performance goal. This time should be respected, and rehearsals should begin on time, in the name of the music.

Establish high expectations and daily goals, never settling for mediocrity. Music making should be extraordinary, all the time. Extraordinary singing should be expected, all the time.

Use of Vocabulary

Since you've created your "community," an inclusive terminology is also another technique to employ. Beware of how often you use "I" or "I want" in a rehearsal.

We mustn't be dictatorial in a music making setting. In saying those words, you have excluded everyone from the music making process, except yourself. As conductors,

we must be inclusive at all times, working to establish the feeling of that old but steadfast cliché, “We’re all in this together.” The members will be more eager to take responsibility and ownership of their roles as *Conscientious Choral Musicians* (CCM’s) sooner in the process, which is where the responsibility will have to be in performance.

Examples of Vocabulary to Use and Not Use

“Let’s do this because... We must count better... Our intonation is suffering here because we’re... The music calls us to focus more at this point... We’re not living up to our potential.” **Rather than**, “I want you to cutoff here... Sing this for me... You must do this... Why can’t you count?”

Respect your Choirs

There’s something to say about a genuine “Please” and “Thank you” on a regular basis. At any level, if you treat them with respect, they will return it willingly. When a conductor’s role is boiled down, the music is the reason for your decisions as a conductor, and thus, you must remove yourself from a potentially dictatorial position and become a guide, giving direction to the music making process enabling your ensemble to find the way.

The Learning Process

Understanding how people learn, and knowledge of the various learning types is vital to your success as a teacher/conductor.

The learning process has layers on which we must build skills and confidence in order to perform a piece of music. I would like to offer how I visualize these layers within a music making process.

This process needs to be followed carefully, as skipping a layer in the learning process may result in a lot of undoing and re-teaching later on in the rehearsal process, thus using precious rehearsal time and taking music making opportunities away. Below is a diagram of a tree whose roots are labeled with “Breathing.” Without roots, there can be no trunk. Without a trunk, there can be no branches, no leaves, no flowers, etc...

Read from the bottom, up, with the bottom being the fundamental layer, and the greatest priority...

COLORS

DYNAMICS

SUNG LANGUAGE/DICTION and TRANSLATION

PITCHES

RHYTHM

BREATHING

The foundation for all singing is **breathing**. We cannot live if we can't breathe. Music will not live if we don't breathe. Your breath while conducting (along with your prep beat gesture) can describe tempo, dynamics, color, and articulation. If conductors do not breathe, then the choir will probably breathe incorrectly and the sound will never be free. Many conductors do not breathe properly (or sometimes at all) and in my opinion, the sound is never organic. Once a conductor senses the difference, they never go back to not breathing, and will wonder how they ever conducted without breathing to that point.

We take in air to live and to sing. We have a pulse that keeps us alive. Without a pulse, our bodies cannot function. Without **rhythm**, the music cannot live. Could rhythm be perceived as our skeleton that holds things in place? Of course, but don't forget about inner rhythm, the inner pulse sending blood throughout our bodies, where a connection to our inner rhythm should be felt.

Pitches are the next layer up. Pitches cannot exist without duration- whether a 32nd note or a note of infinite length. It makes no sense to teach the notes if the ensemble doesn't know the rhythms, nor know how to breathe first.

I prefer using the term *sung language* when referring to the common title of "diction." Sung language is often forgotten and neglected until the latter part of a rehearsal process. I would highly encourage choral conductors to begin teaching and paying careful attention to the language as early in the process as possible. Often,

conductors work on neutral syllables establishing a beautiful color for a piece of music, waiting too long to add the sung language. Teaching the sung language late in the process is often shocking to both the singers and conductor on many levels. The many vowels, consonants and other flavors of a particular language create pitfalls for every singer. Therefore, additional rehearsal time is needed to apply the color achieved on a neutral syllable to all of the text being sung. A choral conductor should expect this, and prepare accordingly. Only when a choir is completely comfortable with the pronunciation of the language and the meaning of text, will the purest and most genuine sound color surface.

As we work our way up a tree to its outstretched branches, we then can envision more detail and beauty in its leaves and the fruit or flowers that blossom. There are different **colors** of various shapes and sizes that evoke warmth, strength or whatever unique quality they possess. The same holds true with music making. Once a strong foundation is laid, if it continues to be nurtured throughout the music making process, the colors of the piece will surface through the use of correct language, dedication to and interpretation of the translation, dynamics, shaping, and other subtleties.

From “Singers” to “Conscientious Choral Musicians”

Where to Start?

1. Train them to be better listeners simply by identifying to your ensembles and audiences what to listen for.
2. Lay out your expectations with justifications, and refer back to them regularly, reinforcing each rehearsal.

Process: The 4 E’s (Eyes, Ears, Energy, Engage)

Using these elements with your choirs will give them something on which to focus constantly and something to which you may refer at any given time in the music making process any time throughout the year.

“Rehearsal” = “Music Making Process” (MMP) or “Music Making Opportunity” (MMO)

EYES- Two ideas

Communication with the Conductor

When it comes down to the performance time, I believe the conductor, if he has done his job well, should only have to start, shape, guide through transitions and stop the choir. If a choir doesn’t communicate with the conductor then flexibility and musical spontaneity is lost.

“Knowing” Eyes

Singers’ eyes should let a conductor and the audience know what they are singing about by evoking the music and text through their entire bodies, most importantly

their faces and eyes. Mind you, this is not endorsing that fake/sentimental “act” that young singers and unknowing adults tend to employ. When ensemble members truly immerse themselves in what they’re singing about, then the colors and mood will take shape in their demeanor and will surface in their eyes. Only until then, when they are truly vulnerable, will the music making be truthful.

EARS

Listening in a Musical Sense

Instrumentalists tend to be better listeners than choral musicians. Consider that they must listen to other instruments around an orchestra for example, to identify what part of the chord they may be playing in reference to the others, or if the theme they are playing is doubled by or harmonized with another section. Instrumentalists have one part in front of them, rather than all parts as in a choral octavo, so they cannot see what else is happening harmonically, rhythmically, dynamically, and so forth. Choral musicians are good listeners as well but not in the same way as instrumentalists. Amateur choral singers have often been taught to learn music by rote. They are able to memorize quickly in some cases, but they are not listening for intonation, rhythmic/melodic/motives or form as they concentrate only on the memorization of their part.

Instrumentalists are trained to listen actively not only to their part, but how it fits into the general passage or piece as a whole- what part of the chord is it, is it the main theme, is their part doubled with anyone else? “Singers” (a stereotypical label implying that choral musicians are not as well trained as instrumentalists) tend not to

listen, or to know how to listen and what to listen for. They tend to not be individually accountable for their own parts and are not equipped with the tools to learn their parts outside of rehearsal, nor equipped with the tools or methods to do so. It is our job to give these tools and methods to our “singers,” turning them into “Conscientious Choral Musicians” (CCM’s).

ENERGY

If a choir has positive energy behind its sound, I believe they will sing in tune. In 7-12 grade choirs, and adult amateur choirs, I blame a majority of intonation problems on lack of energy. It’s too easy to say, “You’re not listening, you’re out of tune, the third needs to be higher...” and yet we all say these things, remembering after the fact that those singers may not even know what to listen for. It is our job as teachers to empower our choirs with the tools to become more self-sufficient. Through consistent reinforcements, quality teaching, and methodical warm-ups, we can give them a life skill only if we do our jobs well.

I believe that with good energy, proper rehearsing, unified vowels, perfected transitions and a solid foundation of technique then intonation will be intact. A CCM’s body needs to be poised and buoyant at all times- like a good shortstop in baseball, like a fine ballet dancer, or like a track star in the starting blocks. From the moment a pitcher takes the mound to face the batter, a good fielder will have his body poised, ready to move in any direction- up, down, sideways, fast, slow, big, little. CCMs’ bodies should follow this example, when they sing and when they are listening actively in rehearsal.

ENGAGE

This is sometimes a scary and difficult concept for conductors and choirs alike. It is often forgotten in “rehearsals.” The term "engage" refers to the conductor and choir’s investment into what they are performing and singing about. If your mind, body, voice, and soul are informed, trained, and warmed up, the focus needs to shift to the intent of the composer and to the performance. If one is truly engaged in what one performs then colors will surface, and the choral sound will become a living entity in itself with flexibility, quality, depth, and a profoundness that will be unmistakable.

Conclusion

Vocal Pedagogy, warm-ups, and rehearsal techniques represent the fundamental aspects of voice building in the context of choral conducting. The choral rehearsal is where a conductor must demonstrate knowledge of these areas in order to help choral musicians improve their singing skills and experience success as they prepare to produce a final musical performance.

Using anatomical, metaphorical, emotional, psychological and physical references, a choral director can enable each singer in the ensemble to grow individually. As individual vocal growth takes place, there is an increasing opportunity for music making at a very high level, increasing the overall sense of accomplishment within the ensemble.

The processes associated with choral conducting and rehearsal technique are in a constant state of evolution. While there are many useful resources, both old and new, there are also a number of incomplete or obsolete methods on the market. This document is a summary of some of the best and most recent perspectives and methods. I hope that it provides the conductor untrained in singing an important beginning resource.

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