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Introduction

Beauty • Freedom • Strength • Health

All singers, voice teachers, and choral conductors treasure and strive to attain these aspects of beautiful and skillful singing. As we deal with our voice students and choir members who are less-than-perfect singers, we admire and yearn for beauty in our own voices and in the voices we train. We prize a tonal quality that is freely produced, with well-controlled dynamics; we value an evenness throughout the range, and a resonance that is well projected, and we esteem voices that are strong and healthy.

But all too often these standards become wistful or wishful thinking as we struggle to exemplify or teach these principles of singing. Unfortunately, singing is not a "natural" activity for everyone, as any voice teacher will tell you after a first lesson, and these attributes of beauty, freedom, strength, and health are seldom inherent in singers. Unlike their instrumental colleagues, singing musicians cannot "trade-up" at the music store for a better instrument when their technique warrants it. The singer's technique and instrument are inextricably intertwined and developed over time; that is why singers seek out mentoring voice teachers who can build their instrument as well as coach repertoire and develop style.

Likewise, choral conductors rarely have singers walk into their rehearsals who do not need further voice training. Moreover, the choral conductor has many other demands and goals that must be addressed; in the midst of teaching sight singing, musicianship, concert deportment, or just trying to get the anthem ready for Sunday, it is easy to understand why more attention is not given to cultivating beautiful singing in the rehearsal. But choral conductors cannot purchase better instruments at the music store either; they must build them themselves, rehearsal by rehearsal, from their knowledge and experience, using the imagination of their singers.

This can seem like a difficult and overwhelming task. But like many formidable processes, singing can be broken down into much smaller and easier steps. With a systematic plan, time, and patience, singing will become a rewarding life-long journey. In this book, the longest journey begins with a map, and then a single step.

Singing is a skill-based activity that must be cultivated. It requires repetition and nurturing over a long period of time as the brain trains and develops both the minute and the large muscles that must be coordinated in order to sing beautifully. This kind of study flies in the face of our culture, which demands that our activities be fast and quick and not require our prolonged attention. It seems quaint to suggest to singers that they are beginning a pursuit that will require a lifetime of attention. But indeed, for the amateur as well as the professional, that is what is required: an intense focus on a spiral of learning that advances your knowledge and experience, and seemingly revisits the same subject over and over again. This cultivation of beautiful singing begins with what you already know, and leads you to areas of study that you don't know very much about, which then become familiar, allowing you to advance onward again to unknown material. All this occurs within the framework of revisiting principles of beautiful singing, and with each new visit, a greater depth of knowledge and understanding is gained; not a circle exactly, but a spiral. *Figure 1* on page viii is a graphic representation of a "spiral of learning for singing," which in this book will be referred to as the Spiral of Singing.

The purpose of this book then, is to provide a road map as well as a set of tools that are required on this journey of "spiral learning" about singing. It is written for and to the singer, but voice teachers or choral conductors may also find the information useful in their work and study. Nine major principles of singing will be discussed, and then numerous vocalises will be included that help cultivate each particular principle. You can use the book comprehensively by reading it cover-to-cover and practicing the exercises to cultivate the principles outlined,

or you can use it like a handbook, consulting the index or chapter headings when you have a particular vocal problem that you would like to address. The format is also a road map that outlines how to teach beautiful singing from a scientific base of knowledge with additional use of imagination, metaphor, and simile. This information is intended to assist singers and teachers (and future teachers) in further developing their own pedagogy. In addition, choral conductors will be addressed in specifically noted sections, with information that is pertinent to voice training in a group setting that will cultivate beautiful choral singing. The final chapter is a brief outline of behaviors that foster vocal health in singers. There are also several appendices that contain referral information from the various chapters, including a guide to the International Phonetic Alphabet (IPA).



Giovanni Battista Lamperti, the great nineteenth-century pedagogue said:

The singing voice is a "castle in the air," Imagination is its architect. Nerves carry out the plans. Muscles are the laborers. The soul inhabits it. (Lamperti 88)

Turn the page and start on the spiral journey of "castle building."

The Spiral of Singing



Figure 1: A systematic vocal pedagogy illustrated in a spiral

This graphic, representing a spiral, contains principles of singing that will be discussed in this book. Singers will find in their voice study, as with any art, that the principles will be revisited over and over from varying perspectives, and with each revisit a new depth of understanding is likely to occur. This is why, although the graphic looks like a circle, it really represents more of a spiral. Learning can proceed in any direction on the spiral: clockwise, counter clockwise or skipping across. As a singer gains more technical mastery, more and more time is spent in the Musical Expressions area, but from time to time, even the best singers revisit all aspects of their singing.

Chapter II **Opening the Vocal Tract**

Background and Scientific Approach

Have you released the tension in your body? Is your instrument in your "singer's stance"? Then we are ready to examine the initial gesture of singing: opening the vocal tract. The vocal tract extends from the tip of the nose and the end of the lips down to the larynx, a little like the shape of a question mark. (See Figure 12A: Closed vocal tract, and Figure 12B: Open vocal tract for singing.)



Acoustically, scientists compare it to a simple tube with one closed end (the larynx end) and one open end (the mouth). This will be very important later when we examine resonance, but for now it is enough to say that one of your jobs as a singer is to get

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Spiral of Singing

your "singing tube" optimally open on inhalation so you can take in air quickly and efficiently without gasping. Equally important, this "open tube" or vocal tract will also encourage the right open shape to create beautiful resonance when you sing.

As you look at the two pictures, (see *Figures 12A* and *12B*) you can see several aspects of the vocal tract that you can control. Unlike most other wind instruments, the shape of the singing voice is in constant flux, with many moving parts, changing to accommodate vowels, pitch, color, and articulation. You can manipulate and control your lips (a), lower jaw (mandible) (b), and tongue (c); the pillars and the soft palate (e); the tissue in the back of your throat (g); and the position of your larynx (i). As a singer you also need to learn not to use your swallowing muscles, the constrictors (among others), (see *Figure 13*) when you sing. (Perhaps you have noticed when you are singing really well, that you get "spitty" with lots of saliva. That is because you have released your swallowing muscles, are swallowing less, and your saliva is accumulating in your mouth.)



Aspects of the Vocal Tract You Can Control

Unlike those other wind instruments that have a finite shape, your singing instrument must be in constant flux to accommodate different pitches, colors, and vowels. You have direct control over many of these movements, and it is important for every singer to understand that muscle movement, muscle tension, or the lack of tension, controls the various parts. The ability to isolate different actions (i.e. tongue independent from jaw) and to break certain affinities (like the tongue and soft palate frequently moving in concert) are important skills that have to be learned and practiced.

JAW

The action of the **jaw** is visually the most obvious. The jaw moves at the temporomandibular joint, which is located just in front of your ear opening. (See *Figure 14*.) The action that we are interested in for singing is the rotation of the condyles, the back part of the jawbone that sticks up from the lower jaw and almost touches the cheekbones on both sides. When you open your mouth correctly, the condyles rotate on a horizontal axis, causing the front of your jawbone (your chin) to tilt back and down. (See *Figure 15*.) The jaw's other action, translational movement, happens most notably



when you jut your jaw. This gliding forward action of the mandible assists in chewing and grinding the teeth, but in singing we want to eliminate this action as much as possible to avoid a jutting jaw and the tension that accompanies it. Many times you will hear the expression "drop your jaw." As a matter of semantics, this statement is misleading; without dislocating from the joint, your mandible (jaw) cannot "drop down." It really tilts back and down. This tilting action brings the front coronoid process forward, (see *Figure 15*) which you can feel with your fingers. It doesn't "drop" either; it rotates forward. One of your jobs as a singer is to control and manipulate your jaw freely and effortlessly, so you can quickly change from one position to another to accommodate consonants, pitch, timbre, and vowel shape.

LIPS

Your **lips** have many actions that you can control. You can round them for vowels like [u], [o], and [o] and release them for vowels like [i], [e], $[\varepsilon]$ and $[\alpha]$. (For an explanation of the International Phonetic Alphabet (IPA) syllables, see page 182.) Both lips can compress to form certain consonants, and the lower lip and the upper teeth can form others. The lower lip, because of its attachment to the moveable lower jaw, is more mobile, and in turn the upper lip is more stable. Your job as a singer is to keep the lip muscles released and tension-free, ready to swiftly move as needed to form the correct shapes for vowels or consonants. You also need to guard against inappropriate pursing or grimaces with your lips that might detract visually from your performance.



Exercises To Encourage And Train Appoggio Breath Management

(These exercises assume that you have aligned your instrument and have cultivated an open vocal tract. They are not intended to be done all at the same practice session. The intent is to provide many different exercises for you to choose from as you establish your own practice routine.)

Finding and preparing the breath mechanism

- ✓ With your fingers, find your tenth rib on both sides. You don't need to count down; it is the last rib that is connected to your sternum (see *Figure 23* on page 37).
- \square Now find the top of your hipbone with your fingers.
- Place your fingers on the space between your tenth rib and your hipbone. This is your natural waistline but it is probably not where you wear your belt (see *Figure 23*). Your abdominal muscles are not exclusively located here, but it is a good point of reference. With your fingers on your natural waistline, do a light, delighted, lyrical laugh. "Ha ha ha ha." Do you feel these muscles engage? If you cough, you will feel them even more so. That engagement is the feeling that we want to be cultivating in these muscles. It is not pressed or tense, just engaged.
- Place your fingers on your epigastrium, (see *Figure 30*) the area just below your sternum. Pant like a small dog. Panting has almost nothing to do with actual singing, but it will help you locate and feel the effect of your diaphragm lowering and recoiling rapidly (more than in actual singing).
- ✓ With your fingers monitoring your tenth rib, completely exhale. At the end of exhalation, your diaphragm is in its "at rest" position, nestled up under your ribcage (illustrated in *Figure 21*, page 35).
- With your fingers still on your tenth rib on both sides, sniff in through your nose four times and expand your ribcage a little bit more with each sniff: "Sniff, sniff, sniff, sniff." Exhale and let your ribs recoil back to the "at rest" position. Repeat the sniffing and remember what it feels like to expand your ribs side to side.
- Now smoothly inhale through your nose (without sniffing) and expand your ribcage side-to-side and hold that position for a second. (You will never "hold" your breath while actually singing.) Your ribs are expanded and your diaphragm is in its contracted or



flattened position. This is the position that Dr. Brodnitz wants you to maintain for as long as possible while singing (and I will add, without undue tension). Just make a mental note of what that feels like. Exhale freely, and feel how your ribs recoil back to their original position. Inhale and exhale several times, monitoring your ribcage action with your fingers. Spiral of Singing

- Keep your left hand on your tenth rib and move your right hand to just below your belly button. Inhale, and note that when your ribcage expands, you can also feel the movement of your viscera as it is displaced by the flattening of your diaphragm. This is not a forceful movement. Your abdominals should not be engaged yet; on inhalation your abdominal and pelvic muscles allow your diaphragm to descend. Freely exhale and again feel the recoil. Repeat this a couple of times.
- ✓ Keep your left hand on your tenth rib and move your right hand to your natural waist. Inhale by expanding your ribcage. (Do you feel it with your left hand?) Exhale with short, sharp "sh" sounds. (See Exercise 22. In IPA[5]. See Appendix Four, Guide to International Phonetic Alphabet, page 182.) Keep your ribcage in its expanded position and feel the engagement of your abdominal muscles at your waist. Do not let your ribs collapse! Repeat two or three times.

Exercise 22



Now add a four count "sh" at the end. Do not let your ribcage collapse! (See Exercise 23.) You will feel your abdominals engaging as you "shhhh." Some people describe the feeling as a widening of your waistline. It is very important to keep your ribs expanded while you do this. Also, be sure to maintain your alignment. Check that ears, shoulders, and hips are all aligned. Repeat this "shhhhing" exercise several times.



Change "sh" to "s" and do the same exercise (Exercise 24). If you start to feel dizzy or light-headed, stop. Sit down.



Practice different regulations of your exhalation. Be sure to expand your ribs side to side on every inhalation. Be deliberate.

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a) Using an [s] sound, *crescendo* for four beats and *decrescendo* for four beats. (See Exercise 25.) Note how your abdominals respond to that new demand. Again, be sure your ribs stay expanded side-to-side.



b) Use an [f] sound and maintain the same dynamic for eight beats: first *mf*, then *ff*, then *p*. (See Exercise 26.) Note how your abdominals respond to these new demands. Do your ribs stay expanded the whole time or at least to the very end?



Now we start to add phonation, placing new demands on your exhalation.

a) This exercise begins with the $[\]$ sound that engages your muscles and then goes directly into tone. (See Exercise 27.) Start somewhere in the middle of your vocal range. Sopranos and tenors (high voices): D major is usually good. Mezzos and baritones (low voices): C or B major. Keep your abs engaged when you make the switch from unvoiced $[\]$ to the voiced vowel.



b) Sing the following exercise with an [m] hum. Be sure your lips are lightly together and your teeth are apart. (See Exercise 28.) You can take little sips of inhalation breaths between each *staccato*;¹² it will help you keep your ribcage out. Be sure your abdominals are engaged for the entire exercise, especially at the end on the *crescendo/decrescendo*.



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c) Sing the same notes with an [m] hum, but this time use *martellato* instead of *staccato*. (See Exercise 29.) *Martellato* means "to hammer." In singing it means to put an emphasis on each individual note, using diaphragmatic pulses, but still connect one note to the other. This technique helps you keep your abdominals engaged. When you inhale, expand side to side and keep your ribs out for as long as possible while you are singing.



d) Repeat the same exercise, but this time do it *legato*. Keep monitoring your ribcage and your waist muscles for the proper movements. (See Exercise 30.)



Now sing Exercise 31. Feel the engagement of your abdominals as you *crescendo* into the vowel [u] and again as you glide up and down.



Recognizing and building the appoggio

In Exercise 32 use a lip flutter or a lip buzz with ascending/descending glides. This is the motorboat sound you did as a child or the sound you make when you are cold, "Brrrrr, it's cold!!!" Think about the connection between your lips and your abdominal muscles. If you cannot do this exercise, you probably have undue tension in your lips and cheeks, or your abdominals are really not engaged. Keep at it. This exercise trains a very important connection and will help you really feel the dynamic equilibrium in your instrument.







Some Common Images Used to Describe Coordinated Onsets and Releases

- The voice rides on a constant pillow of air. Suspend the first tone on that pillow and keep the others floating.
- Begin tone by the permission of the breath. Tone also ends by permission of the breath.
- \square Think the tone and then sing the breath.
- ♫ Initiate tone on the gesture of inhalation.



Especially for the Choral Conductor

Training your choir to become aware of the three different ways of initiating and stopping tone is an important factor in the beauty of your choir's sound and in their ability to be expressive. Unlike individual voice training, where the extremes of onset and release are highly discouraged (breathy and hard), there are many times in choral singing when, for emotional reasons or for clarity of text, you may request your singers to corporately use a breathy or glottal attack. This is an interpretive choice and should be made by you and not by your singers because they have individually habituated a particular onset and release pattern.

So the issues for the choral conductors to address are:

- J Teaching your choir the difference between the three onsets and releases
- Making sure as a rule, that they understand the vocal health and vocal efficiency implications of not using the coordinated onset/release
- Cultivating with your choir the control to exercise any of the three onsets and releases as a choice
- Training them to listen to themselves within the group to be sure they are singing onsets and releases in the manner you have prescribed, almost always the coordinated onset/release

How vocal folds work

If you place your hands together like you are praying, you get a pretty good model of how the vocal folds function i.e. fingertips only together: abduction; fingers and palms completely touching: adduction; fingertips and base of palm together with middle of hands undulating: phonation. (See *Figure 36A, 36B, 36C*). This is a three second rehearsal demonstration, and you will be surprised at how many singers don't



know how their vocal folds move. Then demonstrate with your own voice a "hard" onset, a "breathy" onset, and then a coordinated onset (called the "silent h" onset). In the course of this demonstration, mention that a habitual "hard" onset can cause muscle fatigue and perhaps damage, and that the breathy attack causes laxness throughout the entire instrument. Continue with vocal exercises that help them recognize and cultivate a healthy coordinated onset and release pattern. A suggested sequence for one rehearsal is outlined below. (Any of the vocal exercises listed in this chapter can be used with a group.) It is assumed that your choir has released tension, prepared an open vocal tract, and established breath management.



Some Common Images

Used to Encourage Resonant Singing

- Imagine that a funnel's wide end is in your throat ("tone factory") with the narrow end extending through your hard palate and beyond your lips. The back of the funnel represents the three dimensionality of your pharynx. Tall is [α], deep is [i], broad is [æ]. Don't let your funnel collapse as you sing. The front of the funnel represents the focus of the tone (see *Figure 20*, page 28).
- □ Sing the breath but think the tone.
- \checkmark Feel as though you can sift the breath from underneath your eyes.
- Think of tone as going out, over, and down, like a half-circle starting at the glottis, forming an arc to the head, and then out and down.
- Suspend the first tone and keep the others floating.
- ♫ Tone is disembodied spirit. In Greek, "breath" and "spirit" mean the same thing, which in regard to singing, speaks for itself.
- Imagine that when you inhale, you create a large fish bowl. When you start to sing, you place a beautiful fish (tone) in the bowl that can swim freely.
- As you sing higher, imagine that your head is lighter.

