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Three Approaches for Teaching Laryngeal Stability: Curing the "Necktie Tenor"

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THE FLORIDA STATE UNIVERSITY

COLLEGE OF MUSIC

THREE APPROACHES FOR TEACHING LARYNGEAL STABILITY:

CURING THE “NECKTIE TENOR”

By

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ABSTRACT

Many singers struggle with the issue of laryngeal instability. A larynx that moves upward significantly during singing causes a variety of vocal complications, yet it too often goes undetected or unaddressed by voice teachers. Tenors in particular are prone to laryngeal elevation due to the frequent tessitura demands in the repertoire which exploit the transition into the high voice known as the *passaggio*. Tenors who struggle with laryngeal stability are often referred to as “necktie tenors.” Many classical singers acquire a stable laryngeal position early on in their training by establishing good posture and breathing skills, but some singers escape their early training with persistent habits of laryngeal instability. Once these habits solidify, they can be particularly difficult to correct. This text is intended to provide strategies to teachers and singers which will allow them to identify and correct varying degrees of habitual instability of the larynx in classical singing.

INTRODUCTION

In his book *Training Tenor Voices*, pedagogue Richard Miller makes mention of a type of singer known as the “necktie tenor.” He describes this as one who “raises his larynx in inhalation or at the onset, or with mounting pitch.”¹ The derogatory term “necktie,” refers to the aural and visual aspects of many high laryngeal singers who, while producing thin and restricted sounds, tend to thrust the chin forward and tip the head back as they sing. Most authorities agree that in classical singing, the raised larynx is unacceptable.² A raised larynx produces sounds lacking resonance and projection, and it puts strain on the vocal folds. While many students of singing are able to find a more stable, low laryngeal position by correcting their posture and breathing, a number of singers struggle with this issue perpetually.³ In fact, for singers with severe high-larynx habits, the task of singing with a stable, low larynx is daunting. Aronson admits that in therapy for lowering laryngeal position, the “musculoskeletal tension [of the larynx] is a powerfully resistive force, and less aggressive methods often fail.”⁴ This treatise provides both aggressive and less aggressive methods for correcting laryngeal instability and establishing the low laryngeal position.

¹Richard Miller, *Training Tenor Voices* (New York: Schirmer Books, 1993), 123.

²Craig Timberlake, “Pedagogical Perspectives, Past and Present: Laryngeal Positioning,” *NATS Journal* (September/October 1994), 40.

³Miller, *Training Tenor Voices*, 125.

⁴A. E. Aronson, *Clinical Voice Disorders: An Interdisciplinary Approach* (New York: Thieme, Inc., 1985), 315.

CHAPTER 1

THE PROS AND CONS OF HIGH, LOW, AND DEPRESSED LARYNGEAL POSITIONS: THE CASE FOR THE COMFORTABLY LOW LARYNX

The human larynx is capable of producing singing sounds from several different positions. While general consensus between voice scientists and pedagogues agrees that the larynx should remain low, there are yet divergent ideas about laryngeal positioning.⁵ This chapter will discuss the pros and cons of the high, low, and depressed laryngeal positions in singing, and establish the low, stable larynx as the optimal position for the classical/operatic voice.

High Larynx

Singing with an elevated laryngeal position consists of any upward excursion by the larynx (away from its at-rest position) during singing. According to Marilee David, “Singers elevate their larynges under a variety of circumstances. Some find a relaxed laryngeal position only when not singing; others move their larynges up and down with pitch, much

⁵James C. McKinney, *The Diagnosis and Correction of Vocal Faults* (Nashville: Genevox Music Group, 1994), 133; Ingo Titze, “Raised Versus Lowered Larynx Singing,” *NATS Journal* 50, no. 2 (November/December 1993), 37.

like climbing stairs.”⁶ The elevated larynx can occur in both speaking and singing, typically as pitch rises.⁷ The larynx elevates when the muscles of the tongue, jaw and or neck become active participants in pitch change. Laryngeal elevation tends to occur naturally in untrained singers.

Perceived Pros

If there were no perceived payoff to using a high laryngeal position, people would not form the habit in the first place. So, what advantages does the raised laryngeal position offer, and do they extend into operatic singing? There are in fact certain aspects of singing that seem to come easier when using a high laryngeal position. The elevated larynx can help untrained singers reach higher notes more quickly, can produce sounds akin to those heard in popular music, can facilitate types of choral singing, and can be used in lieu of a true pianissimo to create the softest dynamics. For some, the advantages of allowing the high laryngeal position may include personal aesthetic preferences for light singing used in some Baroque and early Classical music. The worth of each of these advantages must then be weighed against that of alternative laryngeal positions in light of the singer’s and teacher’s overall musical goals and values.

For most singers and many teachers, an awareness of the laryngeal position is something that lies below the level of consciousness. Callaghan states, “Conscious control of the larynx is seen by many teachers as either impossible or undesirable.”⁸ Many singers do not purposely choose a specific laryngeal position. Instead, they arrive at their position based on what allows them to sing what they want to sing. Vennard claimed that most untrained singers only know how to use one vocal register. He found that untrained male singers often use only a “tense, heavy production,” and thus their unused register is the falsetto. He further claimed that when one of these singers ascends the scale, they end up “cracking into

⁶Marilee David, *The New Voice Pedagogy* (Lanham, Md: The Scarecrow Press, Inc., 1995), 39.

⁷Johan Sundberg, *The Science of the Singing Voice* (Dekalb, IL: Northern Illinois University Press, 1987), 113.

⁸Jean Callaghan, “The Implications of Voice Science for Voice Pedagogy: The Singer’s Formant,” *NATS Journal* 50, no. 5 (May/June 1994), 7.

false. As beginning singers make attempts at singing in the higher parts of the range and avoiding falsetto, they often inadvertently allow the larynx to move with the pitch, and thus are able to produce pitches outside the speaking range into the area of the voice known as the *zona di passaggio*.

The high laryngeal position can also seem conducive to producing high notes. Titze established that the raised laryngeal position makes use of extrinsic laryngeal muscles to assist in elongating the vocal folds, and the result is a “brighter sound quality,” and an easier excursion into “the extreme high notes of the pitch range.” Titze admits that the untrained singer may simply be able to reach certain notes more quickly by allowing the larynx to move freely.¹⁰ Perhaps this is the very reason that so many beginning singers develop habits of laryngeal elevation: they can reach higher notes more quickly, without having first established other technical aspects such as breath management and posture. Male voices in particular may find that elevating the larynx provides them a way to sing higher notes without breaking into falsetto. Tenors are more prone to develop habits of laryngeal elevation because more of their music lies well above the normal speaking voice range.

Another perceived advantage to singing with a raised laryngeal position is that it can allow singers to produce tone qualities that are familiar to them as is commonly heard in popular music. According to Timberlake, “Some male pop singers who sing seemingly only in the upper fifth or sixth of the tenor range (F4-D5)...function with an extraordinary instinct for survival between open and closed production.”¹¹ The “open,” or yell-like, quality referred to by Timberlake is a common attribute of raised laryngeal singing, and it should not be confused with “open throat” singing, or *gola aperta*, which has a connection to low-larynx singing. Instead, open singing here refers to the screechy, spread sound that results when one sings into the top voice without modifying vowels. Singers who grow up with high exposure to popular music may naturally migrate towards that type of vocal production. Habits of

⁹William Vennard, *Singing: The Mechanism and the Technic* (New York: Carl Fischer, Inc., 1967), 76.

¹⁰Titze, “Raised Versus Lowered Larynx Singing,” 37.

¹¹Timberlake, “Laryngeal Positioning,” 42.

laryngeal elevation may form based on one's tonal ideals of popular music that exist prior to the student's study of the classical technique.

Often, choirs contain singers who lack classical vocal training, and therefore naturally use an elevated laryngeal position. The sound produced by a raised larynx can be easier to blend because it lacks singer's formant and is rarely as vibrant. Choir directors who prefer soft, straight-toned singing are more likely to elicit raised-laryngeal vocal production from their singers. In choirs that strive for a particularly blended sound, young singers are compelled to find a way to sing in such a way that their voices do not stick out. The high laryngeal position allows singers to phonate without acquiring the kind of acoustic intensity that would result in a disruption of the group's blend. The raised laryngeal position is particularly prevalent in choral tenors who are required to sing above the staff for prolonged periods of time. This type of singing can occur with a raised laryngeal position, and rarely without vocal strain.

Another perceived advantage of the high laryngeal position is the ability to produce soft dynamics, particularly in the upper half of the vocal range. These soft sounds are characterized by a lack of "core" or resonance. Richard Miller calls this sound *voce finta*, or "feigned voice." Miller allows that singers may occasionally unseat their vocal mechanism to produce *voce finta* when expressing certain emotions or tone colors.¹² However, those who sing with the raised laryngeal position end up using *voce finta* regularly in lieu of a true supported pianissimo. To them it may seem easy to sing softly in the higher register, but the sound will lack resonance. *Voce finta* may appeal to some tastes, and some settings.

The high laryngeal position in singing does have certain perceived advantages within specific contexts. Untrained singers may find it easier to produce higher notes, they may produce a sound similar to the tonal ideals in popular music, they can find success in the choral setting, and they can produce soft dynamics even in higher registers. However, as evidenced below, such advantages are only perceived, and not applicable in most classical solo singing.

¹²Miller, *Training Tenor Voices*, 123.

Cons

There are a variety of disadvantages to singing with an elevated laryngeal position in classical singing. First, the high laryngeal position is far less likely to produce the singer's formant. Second, it can produce tones that are aesthetically inferior and atypical of the operatic sound. Third, it can handicap other aspects of the vocal technique, and cause undue stress on the vocal mechanism.

According to Morris and Weiss, "The production of a strong singer's formant for the training of stage singers is an apparent universally desirable goal in voice pedagogy."¹³ The singer's formant is an acoustical boost of energy marked by overtones of 2800-3200 Hertz, which is often known as "ring." Sundberg clarifies some of the virtues of having the singer's formant: "The singer's formant...seems to facilitate our hearing of the singer's voice when the orchestral accompaniment is loud; the singer's formant improves the audibility of the voice without extra cost in vocal effort."¹⁴ In operatic singing, where electronic amplification of the voice is atypical, it is necessary for voices to emerge through the orchestra. The frequencies of the singer's formant are unique within orchestral texture, which allows the voice to be heard.¹⁵ One of the most important disadvantages of singing with a high laryngeal position is that the raised larynx usually eliminates the singer's formant. There are two main reasons why an elevated larynx will not likely produce the singer's formant. First, raising the larynx shortens the vocal tract, which decreases resonating space above the glottis and tends to constrict the throat.¹⁶ Second, high laryngeal production alters the conditions of vocal fold vibration by using extrinsic muscles, rather than intrinsic ones, to stretch the cords for higher pitches. While the exact origin of the singer's formant is not known, most voice scientists feel that it is either a phenomenon of resonance generated in the laryngeal area, an issue of

¹³J. Morris and R. Weiss, "The Singer's Formant Revisited: Pedagogical Implications Based on a New Study," *Journal of Singing* 53 (January/February 1997), 22.

¹⁴Timberlake, "Laryngeal Positioning," 39.

¹⁵McKinney, *Diagnosis and Correction of Vocal Faults*, 133.

¹⁶*Ibid.*, 131.

proper vocal fold vibration in the larynx, or a combination of both.¹⁷ In any case, experts concur that raising the larynx disrupts both the resonating conditions and vibrating conditions of the voice, thereby dampening singer's formant. Without the benefit of the singer's formant, high-larynx singers will not be heard as well through orchestral textures or attain the thrilling vocal brilliance associated with operatic singing.

Another disadvantage to using the high laryngeal position relates to the types of tones that are produced. Appelman claims, "Each laryngeal position will affect the timbre and character of the voice." He then goes on to say that the elevated larynx produces sounds that are "blatant and colorless."¹⁸ Sundberg describes the sound as "shrill."¹⁹ G. B. Lamperti notes that tones produced by "tipping the head too far back while singing makes the sound too white and endangers control."²⁰ Tipping the head back, or jutting it forward while singing are tell-tale signs of the raised laryngeal position. Enrico Caruso wrote, "Singers, especially tenors, are very apt to throw the head forward in producing high notes, and consequently get throaty, strained voice, which is so disagreeable."²¹ David suggests that the raised-larynx sound results in "tight, strident, or harsh" tones.²² Richard Miller, who associates the raised laryngeal position with the French school of singing, wrote the following:

A tight-necked quality of sound manifests itself more frequently among French-trained singers than elsewhere in the four major schools. In its most extreme example, a high degree of nasality is present. The sound which results is produced by a lowered velum, raised tongue, and hyoidal and laryngeal elevation. Some

¹⁷Ibid., 125.

¹⁸D. Ralph Appelman, *The Science of Vocal Pedagogy: Theory and Application* (London: Indiana University Press, 1967), 82, 84.

¹⁹Sundberg, *The Science of the Singing Voice*, 113.

²⁰William Earl Brown, *Vocal Wisdom: Maxims of Giovanni Battista Lamperti* (Boston: Crescendo Publishing Co., 1957), 41.

²¹P. Mario Marafioti, M.D., *Caruso's Method of Voice Production: The Scientific Culture of the Voice* (New York: D. Appleman and Company, 1922), 158-59.

²²David, *The New Voice Pedagogy*, 39.

coloraturas of the Italian and French schools often resort to the elevated larynx, producing a sound which is characteristically white, shrill, and blatant.²³

It is clear from the above examples that the elevated laryngeal position produces a tone that is not aesthetically acceptable in operatic or classical singing.

Finally, singing with an elevated larynx has a domino effect on other issues of vocal technique and can put undue stress on the vocal folds. Posture, phonation, breath, registration, articulation, stamina, and vocal health can all be altered by virtue of laryngeal position.

Singers who use the high laryngeal position will usually have poor posture. The posture of a high-larynx singer may include a craned neck, a jutting jaw, and an elevated chin.²⁴ This type of posture is discouraged in every vocal pedagogy book surveyed here.

Along with posture, the elevated larynx commonly produces a pressed phonation.²⁵ With the extrinsic muscles regulating pitch control, the vocal folds can become unduly tense, requiring more airflow. This causes the folds to approximate in a forced manner. Miller adds, “Whenever the larynx is maintained at a less than optimal posture in phonation, airflow rate is adversely affected.”²⁶ Good singing cannot be achieved without finding a balanced phonation.

The high laryngeal position can also have a negative influence on breath management. In order for high-larynx singers to compensate for their lack of resonance, they tend to become frantic with their breathing. Instead of calm, energized muscular antagonism, they may resort to gasping for air, and pushing and heaving their way through vocally intense music.

²³Richard Miller, *National Schools of Singing: English, French, German, and Italian Techniques of Singing Revisited* (Lanham, Md: The Scarecrow Press, Inc., 1997), 84.

²⁴Miller, *Training Tenor Voices*, 123.

²⁵Robert T. Sataloff, M.D., D.M.A., *Professional Voice: The Science and Art of Clinical Care*, 2d ed. (San Diego, CA: Singular Publishing Group, Inc., 1997), 176; Sundberg, *The Science of the Singing Voice*, 113.

²⁶Miller, *Training Tenor Voices*, 125.

Another likely result of the elevated-larynx technique is uneven registration. In singers in whom the larynx pops up only when the pitch rises, a disparity of tonal quality will likely exist. In the comfortable, low-middle range, these singers are more apt to produce a free, tonally rich sound, but as the larynx rises, the vocal quality will change to the more shrill, pressed sound associated with the raised laryngeal position.

Articulation can also be disrupted by elevating the larynx. The tongue plays a primary role in articulation.²⁷ Since muscles of the tongue connect to the larynx extrinsically, the tongue's ability to articulate properly has a connection to laryngeal position.

Finally, the high laryngeal position can cause vocal health problems. Pressed, or hyper functional phonation, typical of raised-larynx singing, occurs when there is too much tension in the larynx. Doscher notes that the intrinsic muscles of the larynx become "overworked" in high-larynx production.²⁸ The vocal folds slap together so vigorously that they can become swollen and strained. Vocal health and stamina greatly diminish when using an elevated laryngeal position.

Conclusion

Most vocal pedagogues discourage using the high laryngeal position. Nonetheless, within certain settings, some singers may derive a few perceived advantages by using the position. Perceived advantages may include: a quick access into the high voice, a "pop" tonal quality, a sound conducive to choral singing, and a quick way to produce soft dynamics.

The disadvantages of using an elevated larynx in singing are numerous, and from the perspective of classical singing, far outweigh the possible advantages. The high laryngeal position will not often produce sounds with singer's formant, and therefore, the sound will not be loud enough to penetrate many orchestral textures. Also, tones produced with an elevated laryngeal position are often unappealing and inappropriate in classical music. In addition, the high laryngeal position tends to inhibit other aspects of the vocal technique and cause vocal health issues.

²⁷Barbara Doscher, *The Functional Unity of the Singing Voice*, 2nd ed. (Lanham, Md.: The Scarecrow Press, Inc., 1994), 114.

²⁸Ibid., 53.

Low-Larynx

The comfortably low laryngeal position in singing occurs when the larynx remains in the “at-rest” position or slightly lower. In this position, there are no significant excursions upward during phonation in any part of the vocal range. Most modern vocal pedagogues advocate the comfortably low laryngeal position. Miller writes:

The stabilized larynx, neither ascending nor descending for pitch change, nor bobbing about in an unsupported way with syllabic definition, is essential to all good singing. Studies with international singers of note prove that laryngeal position remains stable in elite vocalism.²⁹

The low laryngeal position occurs when a proper muscular antagonism between the swallowing and yawning muscles is established. There are many advantages to using the low laryngeal position, and few if any disadvantages. Using the low laryngeal position will influence matters of resonance, stamina, timbre, registration, and visual presentation.

Pros

As mentioned previously, the low laryngeal position is usually necessary in order for one to acquire singer’s formant. Referring to studies done by Sundberg, Sataloff explains:

Experiments with acoustic models of the vocal tract showed that such a ring of formants can be attained if the pharynx is wide as compared with the entrance to the larynx tube. It seems that, in many singers, this is obtained by a *lowering of the larynx*. In this case the larynx tube acts as a separate resonance which can appear in the vicinity of 2.8 kHz.³⁰

With the larynx in a comfortably low position, a fortuitous relationship between the opening of the larynx and the pharynx is created, resulting in the presence of singer’s formant. As previously discussed, the singer’s formant allows performers to penetrate thick orchestral textures without exerting strain on the vocal apparatus.

²⁹Miller, *Training Tenor Voices*, 125.

³⁰Sataloff, *Professional Voice*, 174. Italics added for emphasis.

Increased vocal stamina is another advantage to the low, stable larynx. With a low-larynx technique, the extrinsic muscles act as stabilizers and do not actively participate in pitch change. With the larynx stable, the intrinsic muscles are left to assume the responsibility for altering pitch. Speech therapists Cooper and Cooper note:

Our aim should be to relax the extrinsic muscles as well as the outer muscles above our shoulders, and then to maintain this relationship while we make sounds. By doing this, we are clearing the way to allow the inner muscles of the larynx to function unobstructedly in the production of sound. In a healthy throat, if the outer muscles are relaxed, the inner ones will take care of themselves.³¹

The lower laryngeal position enables the vocal folds to vibrate without added pressure from the extrinsic muscles. Less strain on the vocal folds allows singers to sing for longer intervals without tiring. Doscher explains: “In a strained, pinched production...when the larynx is too high, the intrinsic muscles are over-worked.”³² The low laryngeal position requires singers to modify their vowels when changing registers. This technique, variously referred to as *aggiustamento*, vowel modification, or covering, contributes to vocal longevity and stamina. Covering “seems to include mechanisms that protect the vocal fold from excessive strain.” Further, “covered singing near the *passaggio* shares some characteristics with the so-called flow phonation and is probably desirable from the point of view of vocal hygiene.”³³ The opposite of covering, known as open or spread singing, is a byproduct of the elevated-larynx technique and causes undue vocal strain. The low-larynx technique enables the vocal folds to function with less fatigue, therefore giving the singer greater stamina.

One of the most valuable benefits of using a stable, low laryngeal position is the operatic timbre it can produce. By keeping the larynx in its low position, the vocal tract remains elongated, which produces a darker, fuller sound.³⁴ Not only will the sound have

³¹M. Cooper and M. H. Cooper, eds., *Approaches to Vocal Rehabilitation* (Springfield, IL: Charles C. Thomas, 1977), 139.

³²Doscher, *Functional Unity of the Singing Voice*, 53.

³³Stellan Hertegård, Jan Gauffin, and Johan Sundberg, “Open and Covered Singing as Studied by Means of Fiberoptics, Inverse Filtering, and Spectral Analysis,” *Journal of Voice* 4, no. 3 (1990), 229.

³⁴Sundberg, *Science of the Singing Voice*, 113; Appelman, *Science of Vocal Pedagogy*, 84.

greater resonance by virtue of the singer's formant, but it also will have a richer timbre that is desirable for operatic and most classical singing.

Thrilling high notes are the ultimate goal for opera singers. High notes win competitions, get people jobs, and excite audiences. While not the only important virtue in classical singing, it probably gets the most attention, and therefore deserves just consideration from singers and teachers. With the low laryngeal position, singers can bring the spine-tingling resonance of the singer's formant, and the dark, rich timbre of the open throat into the high voice. This type of sound cannot be attained to the same degree with an elevated laryngeal position. If a singer desires a ringing, full, head voice, then a stable, low larynx must be achieved. Doscher claims that the pharyngeal space created by the low laryngeal position makes possible the "full head voice."³⁵

Dealing with register transitions is an important concern of both teacher and singer. The ability to sing with a consistent tone quality throughout the range is a widely sought after goal in classical singing. Oren Brown asserts that "the low larynx is a must for the integration of the different registers of the voice."³⁶ Shifting registers is an issue of laryngeal control.³⁷ Voice teacher David L. Jones makes the following claim with regard to smooth registration:

If the larynx is trained to descend gently with inhalation...the back of the throat is trained to open beyond the back of the tongue. The soft palate is trained to lift and the result will be 'pharyngeal vowels' or an open throat. Once this space is achieved, it has been my experience that a perfect blending of the registers is the result.³⁸

In low-larynx singing, the length of the vocal tract remains consistent at all times, which consequently keeps the voice quality consistent at all times.

Singing with a low laryngeal position not only facilitates consistency of sound throughout the range, but may also facilitate voice classification. Doscher claims, "Accurate

³⁵Doscher, *Functional Unity of the Singing Voice*, 53.

³⁶Oren L. Brown, *Discover Your Voice: How to Develop Healthy Voice Habits* (San Diego, CA: Singular Publishing Group, Inc., 1996), 81.

³⁷Callaghan, "The Singer's Formant," 7.

³⁸David L. Jones, "Understanding and Solving Problems in the Middle Register" (http://www.voiceteacher.com/middle_voice.html), [Accessed June 14, 2004].

voice classification is impossible without properly developed suspensory muscles.”³⁹ The suspensory muscles assist in stabilization of the larynx. While some singers may be obviously one voice type from first hearing, others will only reveal their true voice type after they find the low laryngeal position. Untrained male voices usually break into falsetto when they approach their *secondo passaggio*. Less-informed teachers may be tempted to classify these voices as baritones or basses, only to find out later that they are tenors. Baritones may be misidentified as tenors if they constantly sing with an elevated larynx because of the lack of baritonal depth in the tone. With a low laryngeal position, the true identity of that voice can emerge. Registration events may also be different once a low laryngeal position is established. With the low laryngeal position, singers will be able to sing with consistent tone through the registers, and teachers can classify voices more accurately.

Visual appearance, while not necessarily critical, is an important part of singing. Simply put, the posture required for the lower laryngeal position results in a noble, confident appearance for the singer. With the neck long, the upper jaw parallel to the ground, the chest relatively high, and the hips slightly tucked under, one not only provides an optimal scenario for the low-laryngeal position, but also creates a striking aesthetic appearance. By contrast, the craning neck, jutting chin, and collapsed chest that frequently accompany the elevated laryngeal technique will likely give a less favorable visual impression.

Possible Cons

The disadvantages to using the low laryngeal position are insignificant when compared to the advantages, and they apply only to the time period in which a student is learning to stabilize the larynx and relinquish old habits. These include the hard work and time involved in re-training the voice, and in some cases, the emotional hardship of giving up one’s old sound for a new one.

Since many singers enter their formal study of singing with habits of laryngeal instability, learning to stabilize the larynx can be an arduous process. This process can be frustrating, particularly when the singer has already established a vocal identity of which he is proud. In cases of severe laryngeal tension and elevation, some singers will need to

³⁹Doscher, *Functional Unity of the Singing Voice*, 53.

completely start over and re-train the voice to stabilize the larynx. Also, establishing the low-larynx position requires simultaneous coordination of other technical aspects of singing like breath management and posture. Therefore, some singers may find that they cannot access the higher parts of the range as quickly when they have not yet established other parts of their technique. Learning to produce a legitimate pianissimo, particularly in the upper range takes most singers a long period of time to master with a stable larynx. The result is a superior tonal quality than the elevated-larynx equivalent, but it requires more time and work to master. Aside from the hard work involved in stabilizing the larynx and the emotional difficulty of starting over, the low-larynx technique has no other major disadvantages.

Conclusion

Most modern vocal pedagogues, voice scientists, and speech therapists advocate a moderately low, stable position in singing and speaking. The benefits attained by using a low laryngeal position range from superior power and resonance capabilities, to greater vocal stamina, a richer timbre, more thrilling high notes, blended vocal registers, and even a more stately visual representation. Disadvantages are minuscule and only relate to the potential difficulty and effort required in achieving laryngeal stability.

Depressed Larynx

The depressed larynx position occurs when the larynx is purposely pushed lower than the at-rest position by the base of the tongue and by tucking the chin. Sometimes this type of laryngeal position has been associated with the German school of singing, typified in the late nineteenth century teachings of Julius Stockhausen.⁴⁰ Depressing the larynx will alter the timbre and resonance of the voice and introduce a thicker configuration of the vocal folds during phonation.

⁴⁰Miller, *National Schools of Singing*, 85.

Perceived Pros

Singing with a depressed laryngeal position elongates the vocal tract and therefore creates a darker sound. This sound will often seem more resonant to the singer than it is in reality. Proponents of the depressed-larynx technique often strive for an accompanying yawn feeling, which opens the pharynx further.⁴¹ Titze claims that the “vocal folds are likely to be thicker...based on the fact that, when the entire larynx is depressed, the tissue inside the larynx tends to bunch up against the tracheal mucosa.” The large pharynx, combined with the increased thickness in the vocal folds, produces a fuller sound with a strong fundamental frequency.⁴²

Cons

Numerous vocal pedagogues warn singers against depressing the larynx because they view it to be harmful to the voice.⁴³ Titze suggests that using a depressed larynx “can be more effortful for the vocal folds,” and can cause singers to “run out of pitch range.”⁴⁴ With the larynx too low, singers will have a difficult time finding the higher partials in their resonance, which can disrupt their ability to project their voice optimally. In summary, the depressed larynx can be harmful to the vocal folds, can limit production of high notes, and can inhibit higher partials.

Conclusion

The depressed larynx technique provides a full, dark sound with a strong fundamental frequency, but it can be harmful to the vocal folds and can limit the high range, as well as the bright resonance that comes from the presence of higher partials. Since this treatise addresses

⁴¹Ibid., 87.

⁴²Titze, “Raised Versus Lowered Larynx Singing,” 37.

⁴³Ariel Bybee and James E. Ford, *The Modern Singing Master: Essays in Honor of Cornelius L. Reid* (Lanham, Md.: Scarecrow Press, Inc., 2002), 30; Lucie Manén, *Bel Canto: The Teaching of Classical Italian Song-Schools: Its Decline and Restoration* (Oxford: Oxford University Press, 1987), 49; Brown, *Discover Your Voice*, 45.

⁴⁴Titze, “Raised Versus Lowered Larynx Singing,” 37.

the opposite issue of the elevated larynx, no further exploration of depressed larynx singing is needed here. However, more research on the subject could prove valuable.

Summary

The comfortably low, stable laryngeal position is optimal in classical singing. The elevated and depressed laryngeal positions can cause vocal strain and inferior results, while the low laryngeal position provides maximum vocal health, maximum acoustical advantages, full high notes, and the most favorable tonal qualities.

Teachers and students must be aware of the importance of laryngeal positioning. They need to know the positive and negative consequences that result from each position in order to accomplish a high level of competency in classical singing.

CHAPTER 2

STRATEGIES FOR ACHIEVING THE COMFORTABLY LOW LARYNGEAL POSITION

*Teachers need a flexible approach, a more objective terminology, and the ability to teach singing as a fine motor skill requiring movement pattern recognition, kinesthetic awareness and memory, and learned sequencing of the component process.*⁴⁵

Voice teachers address laryngeal stability in a variety of ways. Some prefer to avoid speaking of the laryngeal position at all, opting to focus on releasing tension around the larynx. Other teachers bring laryngeal position to a conscious level for students in order to help students understand its importance. Since different singers will benefit from different approaches to the issue, teachers should be able to adapt their method to the needs of the individual. This paper provides three approaches to teaching the low laryngeal position designed to help students with varying degrees of habitual laryngeal elevation. An *indirect approach* provides beginning students and most female voices a way to settle the larynx without over-complicating the issue. A *direct approach* makes laryngeal position a matter of consciousness, and it centers on re-training those voices with more serious habits of instability. A *behavioral approach* will combine direct and indirect methods of stabilizing the larynx with principles of behavior modification in order to help students overcome the most extreme cases of laryngeal elevation. This chapter will include a brief explanation of each approach, then discuss how to diagnose laryngeal elevation and how to select the proper approach for a student.

⁴⁵Callaghan, “The Singer’s Formant,” 7.

Indirect Approach

Many voice teachers already employ several aspects of the indirect approach in their teaching. Whether or not they use these aspects intentionally to address laryngeal stability is questionable. The truth is, the position of the larynx can be changed and controlled without an actual awareness of the larynx's location. By establishing proper posture, and teaching students how to breath diaphragmatically, teachers encourage a low laryngeal position. Teachers who use vocal exercises or imagery to eradicate tension of the tongue, jaw, and neck are also in essence facilitating a low laryngeal position. If students are able to adopt the skills of posture, breathing, and relaxing tension within a reasonable time frame, the indirect approach is preferable. The indirect approach does not require a period of re-training the voice, so it is easier on both student and teacher. It allows the singer to continue on his current path of progress without major detours. In the voice studio, where time and efficacy are essential, the simplest approach (as long as it meets the needs of the student) is usually best.

Direct Approach

The direct approach to teaching the low laryngeal position requires a conscious awareness of the location of the larynx at all times. This approach is for use with students who have an obvious problem with laryngeal instability, and is therefore more focused and aggressive. The direct approach basically requires the student to start over with his vocal technique and retrain the intrinsic and extrinsic muscles of the larynx to phonate and change pitch in a different way. Laryngeal position is discussed and monitored in specific terms during voice lessons, and exercises are employed with the purpose of stabilizing the larynx in its comfortably low position. The direct approach utilizes the techniques of the indirect

approach, but it adds several other methods geared specifically toward lowering the larynx. These additional methods include: larynx tracking, primal sounds, and the chewing method.⁴⁶ The direct approach is ideal for those students who have studied voice for some time and have developed a technique around laryngeal elevation rather than correcting their laryngeal instability.

Behavioral Approach

The behavioral approach to teaching the low laryngeal position utilizes any or all of the methods described in the indirect and direct approaches, but this approach combines them with a knowledge and implementation of behavioral techniques. Behavior modification or behavior management is a field of study and practice that has been used successfully since the 1960s in a variety of settings and disciplines.⁴⁷ It involves methods designed to help others change their behaviors by structuring the outcomes or consequences of the targeted behaviors. Becoming familiar with the most salient behavioral principles will give teachers a great advantage in the voice studio. Since laryngeal instability can be an extremely difficult behavior or set of behaviors to change, a practical understanding and application of behavioral principles will further empower teachers to help students adopt the behaviors necessary to achieve the low laryngeal position. While behavior principles can and should influence every stage of teaching, the behavioral method suits the most extreme cases of laryngeal instability in particular.

⁴⁶Larynx tracking: Miller, *Training Tenor Voices*, 125; David, *New Voice Pedagogy*, 45. Primal sounds: Brown, *Discover Your Voice*, 9; Callaghan, "Singer's Formant," 7. Chewing method: David, *New Voice Pedagogy*, 44.

⁴⁷Alan E. Kazdin, Ph.D., *History of Behavior Modification: Experimental Foundations of Contemporary Research* (Baltimore: University Park Press, 1978), 7.

Selecting an Approach

Teachers should select the approach that will help singers establish the low laryngeal position most efficiently. When choosing an approach for teaching the low laryngeal position, teachers may need to hear the singers on more than one occasion. The teacher must both observe the student's singing behaviors, and become familiar with the student's performing history and length of study. Then the teacher can diagnose the level of laryngeal instability and find the best approach to establishing proper laryngeal positioning.

While observing the male student during the first few lessons, teachers should note the following:

1. Is the student's Adam's apple easily visible?
2. If so, does it move up and down during singing?
3. How far does the Adam's apple move during singing? (This will require the teacher to lightly place a finger on the notch of the thyroid cartilage during observation.)
4. When does the Adam's apple ascend/descend? At the onset? As pitch rises? During inhalation?
5. What is the student's chin posture during singing? Does it rise or jut out at any part of the vocal range? Is it tucked inward?
6. Is the back of the neck long and straight or does it appear tense and craned forward? Can the student sing in all parts of the range with the back of the neck relaxed?
7. Is inhalation frequently a noisy gasp, or is it silent?
8. Is the chest posture noble and expanded, or does it cave in, and appear apologetic?
9. Does the voice change in quality from low to high?
10. Do high notes sound too open, spread, or yell-like?
11. Does the voice have a consistent ring in the sound?

If the Adam's apple moves upward noticeably at any point during the singing process (other than to swallow between phrases), then the student suffers from laryngeal instability. Minor twitches of movement in the larynx are normal, and can be seen during articulation, but any upward jumps of the larynx indicate laryngeal instability. Teachers should pay

attention to when the larynx moves so that when correcting the problem, they can address the behavior in context with its antecedents.

If the chin juts forward or raises upward during singing, it may be an indicator of extrinsic musculature assisting in pitch change by raising the larynx.⁴⁸ Teachers should note approximately where in the pitch range the movement of the chin occurs. If the chin is tucked inward, the problem is more likely a depressed larynx which will receive no further treatment here.⁴⁹

If the back of the neck is craned forward or appears tense that is another indicator of laryngeal instability.⁵⁰ Students who elevate the larynx have trouble singing higher than their normal speaking range without tensing the back of the neck. They will continually revert to poor neck posture as they ascend the scale.

The noisy inhalation can indicate a larynx that flies upward during inhalation, whereas a quiet breath facilitates a lowering of the larynx.⁵¹

A collapsed chest can disrupt the ability of the extrinsic muscles to stabilize the larynx, whereas a noble chest posture will facilitate laryngeal stabilization.⁵² A collapsing of the chest also denotes clavicular breathing, which may help keep the larynx high during inhalation.

Audible indicators of laryngeal instability may include a significant change in the tone quality of the voice in different registers, or an open, spread, or yell-like sound. Once the teacher's ear becomes adept at recognizing singer's formant, then the absence of that formant in the sound can indicate laryngeal instability.

Answering the above questions accurately will equip teachers to address laryngeal positioning, and select an appropriate approach to teach laryngeal stability.

⁴⁸Miller, *Training Tenor Voices*, 123; idem, *National Schools of Singing*, 83.

⁴⁹Miller, *National Schools of Singing*, 86.

⁵⁰David, *The New Voice Pedagogy*, 16.

⁵¹Miller, *Training Tenor Voices*, 126.

⁵²Manén, *Bel Canto*, 28.

In addition to observing students, teachers should inquire about their student's past vocal history. This will help the teacher gauge how long the student has been singing with an elevated laryngeal position and to what extent the habits have been formed. This information can be useful when selecting the right approach to teaching the low laryngeal position. The following sample questions will provide the teacher with helpful insights about the student's background:

1. How long have you been studying singing?
2. Have you sung in choirs before, and for how long?
3. What do you like most about your voice?
4. What do you consider your most successful singing moment?
5. What do you think you need to work on vocally?
6. How much time do you spend singing each day?
7. How long can you sing before feeling vocally tired, strained, or hoarse?

After observing a student sing, and discussing the student's vocal background, a teacher should be able to assess how serious the case of instability is, and select an approach to teaching the correct position. The following information should prove helpful in selecting an approach:

1. *The Indirect Approach.* This approach is best for milder cases of instability, evidenced in the following types of students:
 - a. Singers who have had very little, if any, prior vocal study.
 - b. Singers who are able to adjust their posture and maintain it immediately while phonating on a variety of pitches.
 - c. Female singers. Females who sing classical repertoire tend to exhibit fewer problems with habitual laryngeal elevation.
 - d. Singers who only rarely and inconsistently raise the larynx during singing.
 - e. Singers who exhibit only minor and occasional upward laryngeal movement.
 - f. Singers who respond with quick results to instruction involving neck, tongue, and jaw relaxation.
2. *The Direct Approach* is for singers with moderate to severe cases of laryngeal instability. Candidates for the direct approach include the following:

- a. Any male singer whose Adam's apple regularly rises during phonation or inspiration.
 - b. Singers who have been studying voice for more than a year, but still exhibit the jutting jaw and craning neck.
 - c. Tenors with a choral background who sound thin and strained in the upper voice, or lack singer's formant in combination with any of the usual signs of laryngeal instability.
3. *The Behavioral Approach* is for the most severe cases of laryngeal instability. Candidates for the behavioral approach include:
- a. Singers who have already been studying voice and performing (perhaps for several years) using the elevated laryngeal position.
 - b. Singers who may have achieved a degree of success and proficiency with their old technique, but continue to lack ring in the voice. Note: These cases are harder to diagnose, and may have slipped by other teachers in the past.
- Tracking the larynx manually during singing of repertoire that exposes the *secondo passaggio* and above, will reveal most problems with laryngeal elevation. It is also helpful to listen to the singer with an orchestra or in a large space to judge if the voice has sufficient resonance and presence in the space.

Summary

While none of the three approaches will harm the student if done correctly, an efficient teacher will not want to spend valuable studio time on a detailed process when the issue can be solved by an easier approach. The direct and behavioral approaches involve a vocal overhaul and are appropriate for students with more severe habits of laryngeal instability. The indirect approach can be used with beginners as well as those who have

established a good basic vocal technique but only occasionally exhibit minor laryngeal instability. The next three chapters will present each of the three approaches in detail.

CHAPTER 3

THE INDIRECT APPROACH

Most teachers who are aware of the importance of a low laryngeal position approach the subject indirectly. Perhaps they prefer this approach because, as Callaghan suggests, “A conscious control of the larynx is seen by many teachers as impossible or undesirable.”⁵³ Whatever the reason, teachers tend either to ignore laryngeal positioning entirely, or to focus on other aspects of vocal technique that will produce a stabilized larynx inadvertently. In fact, without actually focusing on the larynx by speaking of it specifically, or physically touching the area, laryngeal position can be addressed. Confronting the issue of laryngeal position in this way is called the *indirect approach*.

The indirect approach centers on establishing good singing posture and diaphragmatic breathing, and releasing tension of the tongue, jaw, and neck in order to allow the larynx to relax into its comfortably low position. By focusing on these basic issues, many, if not most singers, will find laryngeal stability. This chapter includes a brief description of the extrinsic musculature of the larynx followed by a discussion of several methods and exercises geared toward lowering the laryngeal position without directly focusing on the larynx.

Extrinsic Muscles

The group of muscles known as the extrinsic muscles of the larynx plays an important role in classical singing. The extrinsic muscles are those muscles of the tongue, jaw, and

⁵³Callaghan, “The Singer’s Formant,” 7.

neck areas that connect to the larynx but originate outside of the larynx.⁵⁴ In singing with a low laryngeal position, the extrinsic muscles (particularly those that originate in the neck area) should play an important role in keeping the larynx in place. Miller notes, “If the external-frame function of the neck (the supportive musculature of the larynx) is kept in dynamic muscle balance, the larynx will remain well-poised throughout the vocal scale.”⁵⁵ Unfortunately, singers who are prone to laryngeal elevation tend to use the extrinsic muscles to raise the larynx as a way to accommodate the necessary elongation of the vocal folds in pitch change, instead of the intrinsic muscles. This causes undue strain upon the cords and, as discussed previously, results in a markedly inferior sound. According to Brown, Lamperti understood the role of extrinsic muscles when he said, “Only when the external muscular envelope of the whole body acts as a unit, can the internal muscles of the voice, untrammelled, function.”⁵⁶ The extrinsic muscles commonly divide into two groups: those that originate above the larynx (supralaryngeals), and those that originate below the larynx (infralaryngeals). McKinney notes, “As a general rule, those [muscles] that originate above the larynx pull up on it, and those that originate below pull down on it.”⁵⁷ The two groups of muscles should work antagonistically with each other so as to achieve an equilibrium that stabilizes the larynx. Doscher describes the stabilizing effect of the extrinsic muscles, as well as the benefits of that stability in pitch change:

An understanding of the part each muscle plays in the suspensory mechanism cannot be overemphasized. If the sterno-thyroid primary depressor works antagonistically with the thyro-hyoid primary elevator, the larynx stays in a steady, median position. As a result, the space in the pharynx is increased and undesirable tongue tension avoided. Cooperation between the sterno-thyroid and crico-thyroid helps the latter stretch the vocal folds more gently and efficiently. The stylopharyngeal system, working on the horns of the thyroid cartilage, stretches the cords further for high voice singing, and in this same system contributes to the widening of the pharyngeal cavity.⁵⁸

⁵⁴Vennard, *Singing: The Mechanism and the Technic*, 247.

⁵⁵Miller, *Training Tenor Voices*, 125.

⁵⁶Brown, *Vocal Wisdom*, 41.

⁵⁷McKinney, *Diagnosis and Correction of Vocal Faults*, 74.

⁵⁸Doscher, *The Functional Unity of the Singing Voice*, 53.

When the extrinsic muscles perform the function of stabilizing the larynx instead of elevating it, the low laryngeal position is achieved.

Teachers can implement the indirect approach to establishing the low laryngeal position by using the following approaches: diaphragmatic (*appoggio*) breathing, posture, elimination of tongue and jaw tension, and imagery. Each of these approaches has validity on its own, but most students will require a combination of most or all of the following suggestions.

Diaphragmatic Breathing or *Appoggio*

The larynx naturally descends into its comfortably low position during a quiet, diaphragmatic inhalation. Therefore, focusing on proper inhalation is an effective way to begin to establish a low laryngeal position. Damsté discussed this phenomenon as paraphrased by David:

A diaphragmatic breath will lower the larynx at least temporarily. The diaphragm's contraction exerts a downward pull on the bronchial tree which pulls the front of the cricoid cartilage down. This gives resistance to any upward pull on the cricoid or thyroid cartilages by intrinsic muscles. It also shortens the vocal folds, which reduces shrillness. The downward pull is greatest at the point of full inspiration.⁵⁹

The above quotation suggests that with the descent of the diaphragm, which accompanies a proper inhalation, comes a natural lowering of the larynx. This lowered position is the correct position for the larynx in singing. After using inhalation to facilitate a low laryngeal position through diaphragmatic breathing, the singer must learn to maintain the same position during phonation at all pitch levels. The muscular antagonism involved in maintaining the inhalatory position is characteristic of the *appoggio* method of breath management. When the student begins to notice the sensations, or lack thereof, in the throat that are created by a

⁵⁹David, *The New Voice Pedagogy*, 39.

correct diaphragmatic inhalation, they should then be taught to regard those sensations as “home base” for all their singing.

Posture

Along with breathing, posture plays an important part in establishing the low laryngeal position. By keeping the head, neck, and torso in a noble alignment, the extrinsic muscles are more likely to function as laryngeal stabilizers, therefore encouraging the low-larynx position.⁶⁰ In particular, the neck must be long and straight in the back, so that no craning or hunching occurs. The upper jaw should be kept parallel to the floor. The chest must be held in a confident, noble position. In using the indirect approach, teachers must emphasize posture consistently in order to establish the low laryngeal position.

When students begin to breathe diaphragmatically and establish correct posture, they should be on their way toward laryngeal stability. However, usually singers will need to address tension of the tongue, jaw, and neck as well to truly establish the low laryngeal position.

The Tongue

Of the extrinsic muscles, those that comprise the tongue tend to have the largest influence upon singing. Doscher explains why the tongue wields such an influence:

⁶⁰Miller, *Traning Tenor Voices*, 125.

The tongue occupies almost the entire vocal tract since it is fastened posteriorly to the hyoid bone, the epiglottis, and the soft palate. Effective resonance depends on learning voluntary control of this large, and often unruly complex.⁶¹

Since the tongue is made up of several different layers of muscle, it is capable of changing shape from “round and thick like a sausage” to “flattened, but twisting sideways.”⁶²

Optimally, the tip of the tongue should rest at the back of the bottom incisors during the singing of all vowels, and it should remain as relaxed as possible within the demands that vowel and consonant articulation require.⁶³ Teachers should observe the motions of the student’s tongue during singing and note the following:

1. Does the tongue pull back into the mouth and away from the teeth?
2. Does the tongue appear to be pushed forward into the roots of the teeth?
3. Does the tongue bunch up in the middle?
4. Do the sides of the tongue curve upward?
5. Does the tip of the tongue raise upward?⁶⁴

If the tongue does any of the above, then it is likely interfering with laryngeal positioning and/or vocal freedom, and some correction is in order.

The following three ways are effective in helping singers correct tongue tension: mirror work, use of certain consonant/vowel combinations, and tongue extension exercises.

Teachers should inform students about appropriate tongue positioning, and then insist that the student utilize a mirror during practice to monitor the tongue’s movements: “It is a good idea for singers to practice all kinds of tongue movements before a mirror, to bring it under conscious control.”⁶⁵ By looking in the mirror singers can see when the tongue creeps back away from the teeth, or if it acquires any of the other negative positions or shapes previously discussed. With patience, students can form correct tongue habits simply by using a mirror in the practice room.

⁶¹Doscher, *The Functional Unity of the Singing Voice*, 113-14.

⁶²Vennard, *Singing: The Mechanism and the Technic*, 112.

⁶³Ibid., 110.

⁶⁴Miller, *Training Tenor Voices*, 123-24.

⁶⁵Vennard, *Singing: The Mechanism and the Technic*, 111.

Several consonants tend to put the tongue into the desirable singing position. These include: [v], [f], [t], [d], and the unvoiced [θ]. Miller recommends initializing vocalizations with the consonant [v] to help students become aware of the correct position of the tongue.⁶⁶ The [v], [f], [t], and [d] phonemes naturally prompt the tongue to rest at the teeth without undue tension.⁶⁷ Doscher recommends initiating vowels with the unvoiced [θ] because it keeps the tongue from retracting and loosens the back of the tongue.⁶⁸ Simple exercises that begin each syllable with these consonants will slowly bring the tongue into submission:

These kinds of exercises help the tongue respond loosely and naturally. They are not spectacular or even different. They do not get quick results, but they are effective and they do not substitute another problem for the one they are trying to solve.⁶⁹

Teachers can also help singers train the tongue by emphasizing the proper tongue positions for each vowel. David recommends using the vowel [I] in combination with open vowels like [a] to “free the tongue from the jaw.”⁷⁰ Using the tongue position created in [I] or [i] vowels and alternately “melting” into the open vowels while keeping the tongue relatively forward will guard against the retracting tongue that so often occurs with open vowels. Sometimes, a shift in tonal focus is necessary when addressing tongue position.⁷¹ When singers learn to accept a more forward, or frontal, tone quality, they will need the tip of the tongue in its correct position behind the lower incisors. Another use of vowels consists of singing an [a] vowel with the tip of the tongue outside the mouth.⁷² This type of exercise will discourage tension near the back of the tongue.

Tongue extension exercises may also help in releasing tongue tension. The first exercise is executed by simply placing the tongue out as far as it will go comfortably,

⁶⁶Miller, *Training Tenor Voices*, 124.

⁶⁷Ibid.; David, *New Voice Pedagogy*, 49.

⁶⁸Doscher, *Functional Unity of the Singing Voice*, 115.

⁶⁹Ibid.

⁷⁰David, *New Voice Pedagogy*, 49.

⁷¹Ibid.

⁷²Ibid., 48.

followed by drawing it back quickly. The second exercise is accomplished by hooking the tip of the tongue behind the lower incisors, then rolling the hump of the tongue gently forward, and returning to the at rest position.⁷³ At the very least, tongue extensions will help singers bring the tongue under control, but some authorities feel that extending the tongue produces a more relaxed tongue.⁷⁴

Though the tongue can be unruly, gradually singers will bring it into submission by using the mirror, consonant and vowel relationships, and tongue extension exercises.

The Jaw

Many singers suffer from tension in the jaw. Jaw tension tends to accompany other vocal problems, particularly the elevated larynx. Doscher notes a correlation between jaw tension and poor breathing and posture:

Tightness of the jaw often is caused by other functional tensions. For instance, if breathing is clavicular, the extrinsic muscular network is deactivated. As a result the larynx rides too high, the root of the tongue is tense, the jaw is tight, and pharyngeal space is constricted.⁷⁵

In any case, tension of the jaw appears when needed to compensate for a deficiency elsewhere. Teachers often address the jaw from two standpoints: freedom and position. Those that emphasize jaw freedom claim that “jaw position is not nearly so important as freedom of the hinge or mandibular joint.”⁷⁶ Others like Miller, go further and note that the jaw should not acquire the following four positions:

⁷³Doscher, *Functional Unity of the Singing Voice*, 115.

⁷⁴Vennard, *Singing: The Mechanism and the Technic*, 111.

⁷⁵Doscher, *Functional Unity of the Singing Voice*, 121-22.

⁷⁶Ibid., 121.

1. The jaw is dropped too far.
2. The jaw is not opened sufficiently for the required phonetic postures.
3. The jaw is thrust forward.
4. The jaw is thrust upward.⁷⁷

In reality, both jaw freedom and jaw position interconnect and must be addressed in order to eradicate laryngeal elevation. Three basic strategies will assist teachers in eliminating jaw tension: mirror work, manual jaw tracking, and jaw wiggling.

As with tongue tension, looking in the mirror can do much to bring singers to an awareness of jaw tension. When looking in the mirror, singers should note, in particular, if the jaw juts or the chin rises. Also any jaw clenching should be noted. For many students, the awareness created by viewing themselves in a mirror will initiate a correction of jaw tension.

Tensions tend to creep into the body without the singer noticing. Jaw tension is no exception. By tracking the jaw with one's hand, a singer will create a kinesthetic awareness of the jaw tension, which will encourage jaw freedom. David recommends lightly placing a hand against the cheek or chin while singing in order to alert the singer to jaw tension and movement.⁷⁸ Miller advocates:

Lightly rest the chin in the curve of the forefinger and thumb, with the butt of the hand resting on the chest (or on the other arm positioned across the chest, if the singer is flat chested). Any tendency to move the chin forward or upward with mounting pitch will be noted.⁷⁹

Some speech therapists are more aggressive when dealing with jaw tension. They propose physically moving the jaw with the hand during phonation. Brodnitz recommends shaking the jaw from side to side with the mouth slightly open while phonating on a neutral vowel.⁸⁰

⁷⁷Miller, *Training Tenor Voices*, 124.

⁷⁸David, *New Voice Pedagogy*, 20.

⁷⁹Miller, *Training Tenor Voices*, 125.

⁸⁰Friedrich S. Brodnitz, M.D., *Vocal Rehabilitation*, 3^d ed. (Rochester, MN: Custom Printing, Inc., 1965), 161.

McClosky adds moving the jaw up and down with the hands.⁸¹ If teachers and singers choose to use this more aggressive approach, they should bear in mind that any movement of the jaw must be done gently and smoothly so as not to hurt the jaw mechanism or create further tensions.

Another way to alleviate jaw tension is to wiggle the jaw while singing. Again, Miller provides an excellent description:

Mild, lateral movement of the jaw in small, quick motions during a sustained single pitch, then stopping the jaw action while continuing to sing the tone, often informs the singer where jaw tension lies.⁸²

By moving the jaw in these delicate motions, the jaw muscles will not be able to contract fully and produce the tension.

In summary, freedom of the jaw is an important part of establishing the low laryngeal position. By using a mirror, physically tracking the jaw, and wiggling the jaw singers can reduce or eliminate jaw tension.

The Neck

In optimal singing, neck muscles must perform the function of stabilizing the larynx; however, when the wrong neck muscles contract and become tense, they will assist in the elevation of the larynx. Therefore, neck tension must often be addressed when striving for laryngeal stability. Good posture will solve most neck problems, but mirror work and mild neck motions during singing will also alleviate neck tension.

⁸¹D. B. McClosky, "General Techniques and Specific Procedures for Certain Voice Problems," In *Approaches to Vocal Rehabilitation*, ed. M. Cooper and M. H. Cooper (Springfield, IL: Charles C. Thomas, 1977), 139-41.

⁸²Miller, *Training Tenor Voices*, 124.

If a singer establishes optimal posture, then unwanted neck tension is not likely to appear. By holding the head in its noble position with the back of the neck long, and the upper jaw parallel to the floor, the muscles of the neck will act to stabilize the larynx.⁸³ Therefore, good posture is the best medicine for neck tension.

When singers are unaware of their posture and neck tension, mirrors are again valuable. To see the back of the neck, singers should use two mirrors and position them so that the back of the neck is visible. This will bring neck tension into consciousness and help singers address their tension.

Shaking the head from side to side while singing is another way to address neck tension. Singers should sing a sustained note while shaking and bobbling the head gently, and then stop moving the head and continue singing while maintaining the same ease in the neck. This way singers can be trained to recognize the appropriate amount of freedom in the neck muscles.

Neck tension can cause laryngeal elevation, so teachers and singers must be aware of them and address them when needed as a part of the indirect approach to teaching laryngeal stability.

Imagery

Imagery is another tool that can be used to address laryngeal position indirectly. Without literally describing the anatomical process of singing with a low larynx, teachers can use evocative terms and descriptions that will stimulate the proper physical response of singing with a low laryngeal position. Two common images useful in lowering the larynx include the “incipient yawn” and “drinking in the breath.”

⁸³Ibid., 125.

The “incipient yawn” is an image used frequently in vocal pedagogy. Vennard and McKinney are among the many proponents of the incipient yawn image. Consider the following:

The beginning-of-a-yawn position is ideal for singing and should be cultivated. The full yawn position is exaggeratedly low and should be avoided; it is known as the depressed larynx.⁸⁴

McKinney goes on to describe the four primary benefits of singing while maintaining the incipient yawn position:

1. Opens the pathway for a noiseless and almost effortless taking in of air;
2. Positions larynx in a comfortably low position, without tensing to do so;
3. Increases the size of the throat, especially in the vertical dimension, by lowering the larynx, gently lifting the soft palate, and relaxing the constrictor muscles of the pharyngeal wall;
4. Relaxes the muscles controlling the articulators, thus freeing them for action.⁸⁵

Vennard developed a now widely adopted group of exercises he called the “yawn-sigh” based on combining the incipient yawn image with sighing on pitch.⁸⁶ The yawn sensation lowers the larynx, while the sigh encourages free phonation. For beginners, Vennard recommended a descending five-note scale beginning with a soft dynamic and a light production and increasing in dynamics while descending in pitch. The tone should be both clear and light. As the student becomes more technically advanced, the exercise can be modified by adding an ascending five-note scale in the same breath while reversing the dynamics, creating a *messa di voce*.

The “drinking in the breath” image accomplishes something similar to the incipient yawn. If one asks a student to breathe in air as if drinking a glass of water, the larynx should relax into its low position and the palate will rise. This image will facilitate the low laryngeal position without addressing the larynx directly.

⁸⁴McKinney, *Diagnosis and Correction of Vocal Faults*, 130.

⁸⁵Ibid., 131.

⁸⁶Vennard, *Singing: The Mechanism and the Technic*, 213.

Summary

Many voice teachers already use the methods described as the indirect approach to teaching laryngeal stability. The above methods are used because they work well for many students. By establishing proper diaphragmatic (*appoggio*) breathing and good posture, alleviating tension of the tongue, jaw, and neck, and using imagery, laryngeal position can be stabilized in singing. The indirect approach will be particularly useful with female voices, and beginners. For most necktie tenors, and male voices who have developed habits of frequent laryngeal elevation, the indirect approach will not be aggressive enough to re-train the muscles for the low laryngeal position. However, the knowledge and principles that comprise the indirect approach apply to most students.

CHAPTER 4

THE DIRECT APPROACH

What can you trust? Your primal sound! Get to know it. Find out who you are. Explore! Experiment! Release old habits to make way for the new.⁸⁷

The direct approach to teaching laryngeal stability is based on the idea that one can correct issues of laryngeal instability by bringing the larynx under conscious control. Instead of only focusing on extrinsic tensions as in the indirect approach, the direct approach centers all initial efforts on knowing the location of the larynx. Two main devices accomplish this purpose: larynx tracking and primal sounds. A third device known as chewing therapy will apply in select cases. After explaining the overall philosophy of the direct approach, this chapter will discuss larynx tracking, primal sounds, and chewing therapy, and present a four-step process by which singers can establish the low laryngeal position with the direct approach.

Philosophy of the Direct Approach

As discussed previously, the direct approach is for singers who have made laryngeal elevation a central part of their vocal technique. Some of these singers may have managed to disguise their technical fault for years, and even achieve some success in school or

⁸⁷Brown, *Discover Your Voice*, 4.

professional venues. This will commonly include the proverbial necktie tenor. These singers are often marked by their inconsistency as they flail through the passaggio and find their way into the top voice. The philosophy behind the direct approach is that with extreme cases of habitual laryngeal instability, laryngeal positioning should become the primary technical concern addressed. Once the larynx is stable, one can solve, or begin to solve most other technical deficiencies. Laryngeal position wields great influence upon issues of resonance, registration, breathing, posture, placement, and articulation. Therefore, it is almost fruitless for singers with serious laryngeal instability to pursue those issues before addressing laryngeal position. Once the low position becomes habitual, the foundation is set to address other technical issues properly.

Since the direct approach is remedial, it requires singers to completely discard their old vocal technique in order to rid themselves of the many crutches which accompany laryngeal elevation. This includes foregoing any performing opportunities until the problem no longer exists. It is similar to conquering any other habit or addiction - the individual must avoid situations that will make the addiction more difficult to overcome. For the direct approach to be effective, the singer must fully understand the need for the change, believe that the new technique will yield better results than the current technique, and have a determination to solve the problem. With those ingredients in place, teachers will be able to utilize the direct approach successfully.

Larynx Tracking

The concept of larynx tracking is simple, yet it is vital to accomplishing laryngeal stability. The student lightly places a finger on the thyroid notch of the Adam's apple during speaking and singing in order to become aware of the migrations of the larynx. This does not involve any exerted pressure upon the larynx or any pulling or holding of the larynx with the fingers. It is merely a device used for monitoring laryngeal motion. Since most students will not be conscious of when their larynx rises or lowers, larynx tracking is the most logical and

conclusive way for students and teachers to assess the laryngeal position. When locating the larynx for larynx tracking, teachers must be sure that the student is touching the thyroid cartilage and not simply a bump on the trachea. Vigilant use of larynx tracking in conjunction with singing and speaking exercises should occur until the student forms habits of laryngeal stability. Vennard utilized larynx tracking in his teaching:

I believe in having them [the students] place a finger on the Adam's apple to locate it, and then notice how it drops as they inhale diaphragmatically. The whole thing becomes an advanced breathing exercise and emphasizes the importance of correct respiration. I also ask them to sing still feeling the protuberance of the thyroid cartilage, to notice whether it pops up as soon as phonation begins. With practice they learn how to 'breathe a tone right back out' without raising the larynx, or at least without raising it as much.⁸⁸

The singular goal when beginning the direct approach should be for the singer to discover which sounds he or she can make without the larynx rising. Until solved, this becomes the all important aim of every practice session and every lesson. Any phonation that includes a rising of the larynx should be avoided. As with smoking or drinking or any other difficult habit, the best way to quit is "cold turkey." In this case, that means eliminating the old manner of phonating which relies on laryngeal elevation. The best way to begin this process is to utilize larynx tracking, so that the singer becomes conscious of the position of the larynx. Some singers may also benefit from tilting the head forward so that the chin is slightly tucked in. This tuck will help keep the larynx low, but it must only be a temporary crutch, since it can cause a depressed larynx position. By tracking the movements of the larynx, singers will begin to bring the larynx under conscious control.

Primal Sounds

Oren Brown has coined the term "primal sound" as it applies to singing. Primal sounds are those sounds that humans tend to make instinctively as emotional responses.

⁸⁸Vennard, *Singing: The Mechanism and the Technic*, 109.

“We humans, like all animals, create sound to express our various states and needs. These sounds are involuntary; they spring from our emotions.” Brown goes on to say, “Primal sound...is the sound you make without thinking when, for example, you are amused or startled, or enraged.”⁸⁹ One purpose of using primal sounds is that when one discovers his primal sound, he will most likely also find the proper, low laryngeal position. Callaghan wrote:

There seems no reason why the fine laryngeal control used intuitively in many physiological functions such as laughing, crying, and yawning should not be brought under conscious control for producing singer’s formant. These affective expressions achieve an instinctive balance between breath management, adjustment of the articulators, and laryngeal action.⁹⁰

The primal sound method distances the singer from sounds they previously associated with singing, allowing them to find alternative noises that are more healthy and natural. In the direct method to achieving laryngeal stability, primal sounds should comprise the entirety of the singer’s phonation until they can sing about an octave with a stable laryngeal position. At first, the student must be told not to sing at all outside of lessons until further notice. When the teacher feels that the student can consistently demonstrate a healthy, low laryngeal position with primal sounds, then the student should practice for fifteen or twenty minutes a day using primal sounds only.

Brown often began the primal sound process by having singers say “uh-huh.”⁹¹ This neutral and natural response to a question usually provokes a low laryngeal position. Brown believed that the neutral vowel of “uh” should be the basis of phonation.⁹² Other primal sounds should include laughs, cries, moans, and sighs. The student must be told not to try to associate these sounds with sounding good or singing at all. In fact, the sounds should at first be ugly and unstable. When the student realizes that the teacher does not expect him to make a beautiful sound, he will hopefully relax and dare to experiment with primal sounds. Teachers should make sure that these sounds are produced in a relaxed, spontaneous manner.

⁸⁹Brown, *Discover Your Voice*, 2.

⁹⁰Callaghan, “The Singer’s Formant,” 7.

⁹¹Brown, *Discover Your Voice*, 42; Miller, *Training Tenor Voices*, 123.

⁹²Brown, *Discover Your Voice*, 42.

Students must not experience any muscular sensations in the throat while making primal sounds. If the teacher observes any physical straining, or manifestations of effort in the face, neck, jaw, or lips, then using a mirror will help ensure relaxation. The goal is to make any kind of sound at all that is free of tension and emanates from a stable, low larynx. If this means that the sounds are breathy, or otherwise unattractive for a while, that is fine.

In the beginning, the primal sounds should be concentrated in the low-middle area of the vocal range to avoid any vocal strain or difficulty finding the desired laryngeal position. The student should track the position of the larynx while making primal sounds, paying close attention to any sensations (or lack thereof) in the throat. Most students will be able to find at least a small part of the voice where primal sounds can be made with very little tension and with the larynx in its comfortably low position. As the student becomes adept at maintaining a low laryngeal position with primal sounds in a limited range, the teacher should encourage excursions throughout the middle range. Alternating vowels while making primal sounds, especially the neutral vowel [ʌ], or [o] and [u] will help maintain the low laryngeal position. Pitch slides in conjunction with primal sounds are an excellent way to train the intrinsic muscles to change pitch with a stationary laryngeal position. Assuming the student has already successfully formed the rudimentary skills of breath support, pitch slides done in the manner of a cried and/or sighed tone will develop the ability of the intrinsic muscles to control pitch without the pressure of having specific pitch requirements. The teacher may find it helpful to demonstrate these sounds a few times in order for the student to know what types of sounds to expect, and to help the student feel less inhibited.

Over time, as the student begins to adopt the lower laryngeal position, the teacher can guide the student through the *primo passaggio* into the area of the *secondo passaggio*. At first the idea is to help the student discover how to make any sound at all in that area of the voice without elevating the larynx to do so. At that point, the sound can be breathy and thin as long as the throat is relatively free and the larynx stays down. Eventually, as the teacher notes a level of consistency, an increase in breath energy combined with a raising of the soft palate and maintenance of a neutral or dark vowel will allow the student to make primal sounds up through the *passaggio* and into the top voice. As the student gains the ability to sing through the *zona di passaggio* using neutral vowels, the teacher can introduce the concept of *aggiustamento*, or vowel modification. By slightly altering all vowels towards the

[Λ] position in the notes preceding and including the *secondo passaggio*, the larynx can remain in the low position. Using *aggiustamento* in conjunction with primal sounds will help the student become more adept at keeping the larynx in the correct position.

The primal sound should become a key technical device in the new vocal technique that is founded upon a stable, low laryngeal position. By utilizing primal sounds, singers will discover that their vocal folds are capable of approximating in a different way, that is, they can change pitch without negative tension in the tongue, neck, and jaw.

The Chewing Method

Chewing therapy emerged in 1943. Developed by speech therapist Emil Froeschels, it centers on the idea that chewing is one of man's primitive functions.⁹³ The method assumes that by utilizing the physical motions involved in chewing food, vocal tensions will decrease and create better speech habits. The method has since found wide use among many speech therapists including Landes, Wyatt, Kleinsasser, Polow, Kaplan, and McFarlane.⁹⁴ While a few vocal pedagogues have acknowledged chewing therapy as it relates to singing (Marilee David and Richard Miller for example), it is not widely used in the teaching of singing.⁹⁵ For singers who elevate the larynx during both speaking and singing, the chewing method may prove helpful in finding a way to relax the larynx downward. Boone claims that the chewing approach will relax the components in such a way that it will also “relax the phonatory functioning of the larynx.” He also claims that the chewing method is “one of the most effective facilitating techniques for producing good voice in patients with hyperfunctional

⁹³Brodnitz, *Vocal Rehabilitation*, 144.

⁹⁴David, *New Voice Pedagogy*, 45.

⁹⁵Ibid.; Miller, *Training Tenor Voices*, 124.

voice disorders.”⁹⁶ The method described below transfers the uses of the chewing method from the speech therapy clinic into the voice studio in order to promote the low laryngeal position.

When people chew food, they utilize the tongue and jaw in coordinated motion. Generally, chewing produces a certain freedom from muscular tension in the jaw, tongue, and throat, which is desirable in singing. Boone also claims that the chewing method will “promote more optimum vocal fold size/mass adjustments.”⁹⁷ Such adjustments in the vocal folds are part of the changes that need to take place when going from a raised larynx, which typically uses a pressed phonation, to the low larynx, which uses a balanced phonation.

Through the use of the following process, teachers can utilize the natural benefits of chewing motions to relax the speaking and singing voices. First, explain to the student that they are speaking and singing with unnecessary tension, and temporarily they will be using a method that involves exaggerated chewing motions to relieve that tension. Student and teacher sit before a mirror, and the teacher has the student look in to the mirror and open the mouth as if to bite into a stack of crackers (use real crackers if necessary). Have the student pretend to chew the crackers for several minutes, while pointing out in the mirror the mouth opening and jaw movement. Then demonstrate chewing with soft eating noises, and have the student imitate. Make sure that the tongue is moving naturally as in chewing. As this becomes natural, have the student add some words to the chewing. Find words that they can say easily while doing the chewing motions. When the student is adept at using words, have them count from one to ten. Have them practice this, then record the exercise and play it back for the student. When they have mastered the counting exercise, have the student practice reading a passage out of a book while using the chewing motions. Eventually, hold conversations with the student while they use the chewing motions. Encourage the student to practice this with people at home who will be supportive of the exercise. As the student becomes skilled at finding healthy phonation with a relaxed tongue and jaw, and consequently larynx, have the student gradually diminish the exaggerated chewing motions

⁹⁶Daniel R. Boone, *The Voice and Voice Therapy* (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1977), 123.

⁹⁷*Ibid.*, 120.

while maintaining the same relaxed feeling in the throat by simply thinking the chewing method.⁹⁸ When the student can speak well by thinking of the method, voice teachers can move the singer from speech to prolonged speech and singing by using primal sounds. Adding larynx tracking will ensure the proper laryngeal position. By using the chewing method, singers with heavy tension in the tongue and jaw can eliminate tension and find the relaxed larynx position needed in good singing.

Direct Approach Application

The direct approach can be broken down into four steps. First, the teacher must confront the singer with the facts about their laryngeal instability. Then the student must find the comfortably low laryngeal position in a portion of the vocal range. Third, the student and teacher work on expanding the singer's range. Finally, the student can return to his repertoire and implement the new laryngeal position.

Step 1: Confronting the Issue

After the teacher has diagnosed the problem of laryngeal instability in a singer, it is time to inform the singer. Teacher and student should sit down and talk about the benefits of a low, stable laryngeal position, and the disadvantages of laryngeal instability. Based on this discussion, the singer should come to understand and believe that the sounds he makes with an elevated larynx (as good as they may be in the singer's mind) are far inferior to those that a stable larynx will produce. Success is unlikely if the student does not commit to making the change. The student must trust the teacher and trust the information presented to him. Teachers may find it helpful to defer to the writings of pedagogues and famous singers, so the student will have documentation in support of the low laryngeal position. One handy source that contains statements made by several famous singers on laryngeal stability is the popular

⁹⁸Chewing Method Steps: Boone, *Voice and Voice Therapy*, 120-23.

book *Great Singers on Great Singing* by Jerome Hines. Here Marilyn Horne, Sherrill Milnes, Franco Corelli, Nicolai Gedda, Luciano Pavarotti, Placido Domingo, and others comment on the importance of singing with a low laryngeal position. Singers will find it hard to argue with Corelli when he says, “There’s no other way” than to sing with the larynx low,⁹⁹ or with Marilyn Horne when she says:

I think, in breathing correctly, your larynx goes down automatically, you’re already in a position for singing, so that you’re not singing with a raised larynx. Then of course, the higher you go, the lower the larynx has got to go.¹⁰⁰

While the statements in Hines’s book are often empirical and given to imagery, there is an obvious consensus that the larynx must remain comfortably low during singing. Singers in Hines’s book also refer multiple times to the importance of posture and breathing as they relate to the low larynx, and the images of the incipient yawn and drinking in the breath are also present. These statements and others like them, in conjunction with videos, recordings, and pedagogical literature will help to convince students of the importance of the low laryngeal position.

Step 2: Finding the Comfortably Low Position

After the student commits to the new goal of laryngeal stability, it is time to locate some part of the voice in which the singer is able to phonate with a low larynx. Many students will have no problem using the low larynx in the lower part of the range. Have the student track the larynx and find which notes he can sing without the larynx traveling upward. Insist on relaxation of all intrinsic and extrinsic muscles, and make sure that the singer is not focused on making “beautiful” singing sounds. Instead, allow the sounds to be rough, uncultured, and raw. Introduce the concept of primal sounds by having the student alternately make sounds of crying, laughing, moaning, and sighing while tracking the larynx. This should be a time of experimentation. It may take several lessons to help the student get used to the different way of phonating and begin to form new habits.

⁹⁹Jerome Hines, *Great Singers on Great Singing* (New York: Limelight Editions, 1995), 59.

¹⁰⁰*Ibid.*, 136.

Teachers must reinforce correct posture and breathing concurrently to ensure that the new sounds generate from proper breath support and body alignment to provide the structural support needed to stabilize the low larynx. During this time of experimentation, sounds made by the student will seem strange and far removed from their concept of what a beautiful tone should be. To help this issue, students should record their lessons, so they can appreciate their new sound as it begins to develop.

In special cases, where the singer has difficulty phonating at all without a raised laryngeal position, introduce chewing therapy until the singer can perpetuate the low laryngeal position.

Step 3: Expanding the Range

When the singer has found a core portion of the range that consistently utilizes the low laryngeal position, it is time to begin expanding the range outward. This will only be possible if correct breathing and posture skills have been acquired. Singing in the upper range will require a more vigorous use of *appoggio* support than needed previously, so it is crucial that a fundamental knowledge of breathing skills be present. Expanding the range into and above the *secondo passaggio* will probably take several weeks or even months to accomplish. Be prepared for frustration and doubt, but remember that patience will ultimately yield results.

Step 4: Returning to Repertoire

When the singer can sing consistently within the range of an octave or so with the low laryngeal position, it is time to ease back into repertoire. Teachers should select art songs of a modest range, so the singer will not enter the high voice too soon. Teachers may select songs that expose various ways of accessing the upper middle voice (by step, different leap intervals, and phrases beginning in that area). Eventually, depending on age, maturity, and skill level, singers should find appropriate operatic literature. At this point, when the larynx is stable in its low position, normal voice lessons may ensue, and teachers can address the multitude of other technical aspects of the voice. Teachers may need to focus next on issues of vowels and forward resonance since a darkening of the voice is natural during the process of lowering the larynx. Another issue that may require attention is the vocal onset/release.

This will help students maximize the benefits of the low larynx by training the vocal cords to approximate and phonate clearly and efficiently.

Summary

Despite hesitancy on the part of some voice teachers to address larynx positioning directly, major pedagogues including Vennard, Miller, and David have found it useful to bring the larynx into conscious control. For singers who constantly sing with an elevated larynx, a direct approach may be their only redemption. Based on the empirical evidence of the author and the pedagogical writings included here, using larynx tracking, primal sounds, and the chewing method in the suggested steps above, should result in laryngeal stability.

CHAPTER 5

THE BEHAVIORAL APPROACH

Practically speaking, voice teaching can be reduced to two functions: implementing correct vocal behaviors, and extinguishing incorrect vocal behaviors. The more adept teachers become at accomplishing these two goals, the more effective they will be. Greer claims, “Teachers know that learning is taking place whenever they observe a change in the student’s behavior.”¹⁰¹ Often less effective teachers blame their failures in teaching on an “inborn weakness” in the student, instead of accepting a measure of responsibility for the learning process.¹⁰² The behavioral approach to finding laryngeal stability equips teachers with knowledge and tools which will help them correct the most severe habits of laryngeal elevation in their students. This approach utilizes the methods described in the indirect and direct approaches combined with principles of behavior. In essence, the behavioral approach teaches teachers how to facilitate changes in singers’ vocal behaviors more efficiently. This chapter will introduce the concept of behavior modification, explain several of its most salient principles, and provide a practical application of behavior principles in light of teaching laryngeal stability.

¹⁰¹R. Douglas Greer, *Design for Music Learning* (New York: Teachers College Press, 1980), 28.

¹⁰²*Ibid.*, 1.

Behavior Modification

Behavior modification is a term used to identify a wide variety of ideas and methods developed to address different human behavior issues. Some definitions of behavior modification include the following:

- The management of behavior through the manipulation of the environment.
- Treatment techniques derived from theories of learning and aimed at the direct modification of one or more problem behaviors.¹⁰³

While people have always been concerned with issues of behavior, the field known as behavior modification is relatively new. Mikulas claims, “The first major statement of a behaviorist position was that of Watson in 1913.”¹⁰⁴ However, the study of behavior has only been popular since the late 1960s, and has subsequently been the basis for much study and research.¹⁰⁵ The application of behavior modification techniques has been particularly successful in dealing with learning disabled children, autistic children, emotionally disturbed children, and classroom behavior problems.¹⁰⁶ Behavior modification is highly adaptable in many situations and problem areas because the basic principles of behavior apply easily to most settings.¹⁰⁷ Behavior studies readily apply to musical scenarios such as teaching music in the classroom and in choral settings.¹⁰⁸ However, little has been written to apply behavior

¹⁰³James A. Poteet, *Behavior Modification; A Practical Guide for Teachers* (Minneapolis, MN: Burgess Publishing Co., 1973), 23.

¹⁰⁴William L. Mikulas, *Behavior Modification* (New York: Harper & Row, Publishers, 1978), 6.

¹⁰⁵Greer, *Design for Music Learning*, 17.

¹⁰⁶Roger D. Klein, Walter G. Hapkiewicz, and Aubrey H. Roden, *Behavior Modification in Educational Settings* (Springfield, IL: Thomas Publishing, 1973), 540.

¹⁰⁷Mikulas, *Behavior Modification*, 2.

¹⁰⁸Clifford K. Madsen and Carol A. Prickett, *Applications of Research in Music Behavior* (Tuscaloosa, AL: University of Alabama Press, 1987); Greer, *Design for Music Learning*.

principles specifically to voice teaching. In fact, the majority of literature on vocal pedagogy focuses more on the scientific aspects of singing than to the art of teaching voice or the skills involved in communicating with students.¹⁰⁹ Teaching laryngeal stability to “necktie tenors” and other voices provides an ideal vocal setting for applying behavior principles because it involves supplanting difficult negative vocal habits with more effective vocal habits.

Behavior modification is not the cure-all answer to voice teaching or any other discipline. Limitations include the potential misuse of behavior principles resulting in power struggles between students and teachers.¹¹⁰ However, exposure to behavior principles can give teachers tools that, if used with intelligence and sensitivity, can only improve their success.

Behavior Principles

Before applying behavioral principles to teaching the low laryngeal position, the reader should become acquainted with basic behavioral theory and some of its principles. The next few pages will introduce the ABC’s of behavior, methods for increasing and decreasing behaviors, and an assortment of behavioral tools applicable in the vocal setting.

When considering behaviors, the simple template commonly referred to in behavioral circles as the “ABC’s” is helpful: “A” stands for *antecedent*, “B” stands for *behavior*, and “C” signifies *consequence*.

¹⁰⁹Robert Michael Peavler, “Identification and Use of Learning Styles in the Collegiate Applied Voice Studio,” (Ph.D. diss., Florida State University, 2000), 1-2.

¹¹⁰Klein, Hapkiewicz, and Roden, *Behavior Modification in Educational Settings*, 543.

The *antecedent* represents “the situation or conditions that exist before or immediately preceding a behavior.”¹¹¹ Teachers must evaluate antecedents in singing behaviors so they can adapt their instruction to specific behavioral needs. For example, if a teacher knows that a student tends to raise his larynx when faced with large interval skips into the high voice, the teacher will be able to adjust vocal exercises to address that issue.

A *behavior* constitutes “anything a person does, says, [or sings] that can be observed or measured.”¹¹² Singing behaviors range from the subtlest sounds and movements to overt physical motions. Teachers must develop the ability to isolate and identify behaviors and understand the implications associated with those targeted behaviors. Vague descriptions of what a student does, such as, “That phrase sounded thin and weak,” will not be very helpful to students; instead, the teacher can identify a specific behavior to change such as, “I noticed during that phrase your chin elevated just before you sang the high A.”

People usually associate the term *consequence* to mean some sort of punishment, but in this context a consequence is simply anything that happens directly as a result of a given behavior. Consequences can be positive, negative, or neutral. Greer states:

Regardless of whether the behavior is appropriate or inappropriate, or whether the behavior increases, decreases, or stays the same, it is the consequences of the behavior that determine its rate and direction.¹¹³

Voice teachers should use a variety of consequences, also called reinforcers, in the studio in order to influence their students to become better singers.¹¹⁴

The following table contains examples of the ABC’s of behavior in an applied voice context:

¹¹¹Jerry Davis, Ph.D. and Daniel L. Daly, Ph.D., *Girls and Boys Town: Long-Term Residential Program Training Manual*, 4th ed. (Boys Town, NE: Father Flanagan’s Boys’ Home, Inc., 2003), 57.

¹¹²*Ibid.*, 59.

¹¹³Greer, *Design for Music Learning*, 45.

¹¹⁴Poteet, *Behavior Modification; A Practical Guide*, 29.

TABLE 1
ABC'S OF BEHAVIOR

Antecedent	Behavior	Consequence
A high-note is coming in the music.	Student elevates larynx noticeably prior to the high note.	The teacher explains what happened in a matter-of-fact way, and asks the student to try again using the incipient yawn image.
A high-note is coming in the music.	The student maintains good posture, and the larynx stays low, but the high-note cracks.	The teacher praises the student for taking risks and keeping the larynx low.

Increasing Positive Behaviors

Positive Reinforcement. One of the best ways to increase a specific behavior in a student is to use positive reinforcement. “Those consequences of a student’s behavior that act to increase or maintain behavior are termed positive reinforcement.”¹¹⁵ Such consequences may include praise (verbal and nonverbal) from teachers and peers, successful performing experiences, access to special events, materials, or activities, grades, or anything that serves as a positive motivator for students. Poteet equates positive reinforcers with rewards.¹¹⁶ When a student does something right, and the teacher tells them “good job” or nods their head in approval, they are utilizing positive reinforcement. Many teachers use this tool instinctively, but by learning how to be more effective with positive reinforcement, students will change their behaviors even faster. Several principles determine the overall effectiveness of positive reinforcement, they include: immediacy, contingency, satiation, size, and timing.¹¹⁷ Mastering these concepts will maximize teacher effectiveness.

¹¹⁵Greer, *Design for Music Learning*, 46.

¹¹⁶Poteet, *Behavior Modification; A Practical Guide*, 30.

¹¹⁷Davis and Daly, *Girls and Boys Town*, 64-65.

Immediacy. Immediacy is an important part of effective positive reinforcement. This means that teachers must respond immediately to a student's positive vocal behavior with a positive reinforcer. Mikulas claims, "As a general rule, you get the best results if the reinforcement occurs right after the behavior."¹¹⁸ The more time that elapses between the good behavior and the reinforcer, the less effective the reinforcement.¹¹⁹ Teachers who give immediate approval the moment a singer exhibits a proper behavior will be more successful.

Contingency. Another valuable principle is contingency. Pedagogically speaking, this means that a teacher should give positive reinforcement only when specific objectives or criteria are met. Greer states:

Good teaching must be contingent in that the appropriate consequences must occur for the appropriate behavior and in the appropriate context and setting in order to successfully bring about the learning of skills, knowledge, and affective objectives.¹²⁰

Poteet claims that the principle of contingency can be learned and implemented quickly.¹²¹ A teacher's praise should have a perceived value, which exists only when teachers make their positive comments contingent upon good singing behaviors. Additionally, teachers can offer specific rewards to students contingent upon mastery of specific vocal skills or repertoire. For example, a teacher might allow a student to be part of a recital only if the student has developed sufficient skills of *appoggio* breathing (the teacher should delineate specific behaviors to measure success or failure of the skill). In order to make something truly contingent, the teacher absolutely must hold to the bargain. If the student meets the desired goal, then he must receive the reward, and if he does not, the teacher must have the discipline to withhold the reward. When students realize that their teacher will be consistent with their consequences, they will be more motivated to improve.

¹¹⁸Mikulas, *Behavior Modification*, 86.

¹¹⁹Davis and Daly, *Girls and Boys Town*, 64; Poteet, *Behavior Modification; A Practical Guide*, 30.

¹²⁰Greer, *Design for Music Learning*, 3.

¹²¹Poteet, *Behavior Modification; A Practical Guide*, 44.

Satiation. Satiation constitutes the overuse of a specific reinforcer or approval device.¹²² When a teacher uses a particular word or phrase to approve a vocal behavior too frequently, it will tend to lose its power and effectiveness. If a teacher praises a student constantly with the same words, then the worth of the praise will decrease in value until it becomes useless as a reinforcer. By being thoughtful about reinforcers, teachers can avoid satiation and maintain effectiveness.

Size. The principle of size relates to the proportion of the reinforcer compared to the magnitude of the behavior. “If a reinforcer is too small, the [student’s] motivation will dwindle. If a reinforcer is too large, the potential for satiation of that reward increases.”¹²³ Teachers should adjust their chosen reinforcers to fit the value of the specific behavior being addressed. By doing so, the teacher will be more effective at motivating students to improve.

Timing. Timing of reinforcers is extremely important. Research in behavior modification suggests that the effectiveness of reinforcers is partially determined by the schedule by which it is delivered.¹²⁴ If a behavior is reinforced at a regular interval (based on time or number of occurrences), then it is on a fixed schedule of reinforcement. If the behavior is reinforced more irregularly, it is on a variable schedule of reinforcement.¹²⁵ When a new skill has just been learned, teachers may want to follow a continuous schedule of reinforcement. This means that the teacher reinforces every correct response. To maintain a previously learned behavior, an intermittent schedule works better. In this schedule, teachers reinforce only some of the student’s correct behaviors. This means that only some correct responses are reinforced.¹²⁶ Behaviors reinforced intermittently tend to continue. In fact, unwanted behaviors that are reinforced intermittently are often the most difficult to

¹²²Donald L. MacMillan, *Behavior Modification in Education* (New York: The MacMillan Company, 1973): 73-75.

¹²³Davis and Daly, *Girls and Boys Town*, 65.

¹²⁴Clifford K. Madsen and Charles H. Madsen, *Teaching/Discipline: A Positive Approach for Educational Development* (Raleigh, NC: Contemporary Publishing Company of Raleigh, Inc, 1998), 71-73.

¹²⁵Poteet, *Behavior Modification; A Practical Guide*, 38.

¹²⁶*Ibid.*

extinguish.¹²⁷ The classic example of this is gambling. The individual does not know when they will win, but the occasional reinforcing win propels many into compulsive behaviors. Poteet maintains that the schedule of reinforcement is less important than the nature or quantity of the reinforcer.¹²⁸ Nonetheless, reinforcement schedules can prove useful in the voice studio. By using positive reinforcement in its proper time and context, students will be more motivated in their learning and practicing.

Extinguishing Negative Behaviors

Voice teachers spend a lot of time helping students get rid of unproductive singing behaviors. There are many ways to do this, but some are more effective than others. Unfortunately, many teachers simply wait for a negative singing behavior and then disapprove of it.¹²⁹ Less effective teachers resort to berating singers when they produce a bad note or breathe high in the chest, but the most productive teachers learn how to decrease negative behaviors without being punitive or belittling. In behavior modification, concepts such as extinction, negative reinforcement, and punishment/response cost are ways to decrease unwanted behaviors.

Extinction. One principle stands out above all others when applied to eliminating negative singing behaviors: “Behavior that goes unrewarded will extinguish.”¹³⁰ There is always some reason why singers do what they do. Consciously or not, if they carry tongue tension, place their vowels too far back, elevate the larynx, or do anything that teachers would perceive as a negative vocal behavior, they are doing so because it gets them a certain reward or a payoff.¹³¹ Perhaps some singers’ payoffs are that they will feel more in control or avoid cracking when they use tongue tension, or they sound louder to themselves when their

¹²⁷Madsen and Madsen, *Teaching/Discipline*, 74; Poteet, *Behavior Modification; A Practical Guide*, 38.

¹²⁸Poteet, *Behavior Modification; A Practical Guide*, 39.

¹²⁹Greer, *Design for Music Learning*, 48.

¹³⁰Madsen and Madsen, *Teaching/Discipline*, 55.

¹³¹*Ibid.*

vowels are formed incorrectly. Maybe the payoff is they think they have great high notes when their larynx is high. If a teacher can find the specific payoff or reason for the behavior, and then eliminate that payoff, the negative behavior will disappear. As an example, examine the student who produces his high notes by elevating the larynx. The fact that he was able to sing high notes at all has probably been impressive to at least some of his audience. The occasional compliment from a peer or audience member has served as an intermittent reinforcer, therefore making the behavior difficult to overcome. When a voice teacher attempts to help the student stabilize the larynx, that student will most likely lose those high notes for a time. Unless the teacher can eliminate the old high note payoff effectively, he will have a hard time getting the singer to commit to the change. So, in a tactful way, the teacher must get it across to the singer that though he can produce high notes by using the high larynx, that type of high note is unacceptable in operatic singing. The student should hear this from multiple sources if possible, explaining that the lack of depth and fullness in the sound is related to an unstable larynx. This will help the student discriminate between further compliments from outside sources, and hopefully the payoff will lose its value for the student. In the case of the high laryngeal position, teachers must never reinforce high-larynx high notes, even though some of them sound better than others. Eventually the singer will realize a need for change, and through the teacher's guidance, he will acquire a desire for change because the payoff either no longer exists or no longer serves as a payoff. The process of extinction can be an effective way to decrease unwanted behaviors without being overly negative or punitive towards the student.

Negative Reinforcement. Another way to decrease less-effective behaviors is negative reinforcement. This constitutes “those stimuli whose withdrawal reinforces a behavior.”¹³² Examples of this include yelling, harassing, intimidating and nagging students. Unwanted behaviors may decrease in order to avoid the negative reinforcer. Consider Greer's thoughts on the subject:

Unfortunately, negative reinforcement is used wittingly and unwittingly in far too many classrooms and rehearsal halls. Examples include nagging or browbeating students to perform better....Anytime aversive stimuli are applied to develop, increase, or maintain behavior, the director is unwittingly attempting to implement negative

¹³²Poteet, *Behavior Modification; A Practical Guide*, 32.

reinforcement....Negative reinforcement is to be avoided especially in music....It is particularly antithetical to arts education.¹³³

Poteet adds: “In behavior modification the emphasis is upon positive reinforcement. The side effects of negative reinforcement are such that other less desired behaviors become apparent.”¹³⁴ Though negative reinforcement may help eliminate some behaviors, it is not usually necessary nor is it recommended in the behavioral approach to teaching laryngeal stability. The effort to make drastic changes in vocal technique is traumatic for singers. They do not need added negativity from their teacher to make the necessary changes. If teachers find ways to reinforce good behaviors, and simply remove reinforcers from unwanted behaviors, they will be more effective.

Punishment/Response Cost. Punishment is not usually recommended in behavior modification, except when exercised in extreme cases under certain guidelines. It does not have much use in the voice studio, so it will not receive lengthy elaboration here. Response cost, however, is a type of punishment that constitutes the removal of a reward, instead of the addition of something punitive. For example, if a teacher finds a student’s behavior absolutely unacceptable (such as frequent unpreparedness), then the teacher may resort to cancelling a lesson, or removing the student from participation in a musical event. Response cost should be carried out in a matter of fact way (without yelling, cruelty, or causing fear or withdrawal), and time should be taken to teach the student what the appropriate behavior should be.¹³⁵ In appropriate situations, students should be given the opportunity to earn back the reward that was removed, contingent on improvement or correction of the problem.

Counter-Conditioning. One effective way to decrease behaviors without resorting to negative reinforcement or punishment is counter-conditioning. MacMillan defines this to mean “strengthening a more desirable behavior, and in doing so, weakening the undesirable behavior.”¹³⁶ In this approach, teachers find a positive behavior that is incompatible with the negative behavior that needs to be eliminated. By reinforcing the positive behavior, the

¹³³Greer, *Design for Music Learning*, 45-46.

¹³⁴Poteet, *Behavior Modification; A Practical Guide*, 33.

¹³⁵Greer, *Design for Music Learning*, 37.

¹³⁶MacMillan, *Behavior Modification in Education*, 72.

negative one will automatically decrease. For example, if the negative behavior is a rising larynx, then the teacher could temporarily reinforce a slightly tucked chin. With the chin tucked, the larynx will not be able to rise much, and therefore that behavior will decrease. (In this example, teachers should make it clear that tucking in the chin is only to be used temporarily). The teacher spends time reinforcing the tucked chin instead of correcting the rising larynx, and therefore accomplishes the goal with a positive approach. Where possible, counter-conditioning should be used in the behavioral approach to laryngeal stability.

Successive Approximation

In singing there are many vocal skills that singers will not acquire immediately. The behavioral principle called successive approximation, also known as shaping, provides a way to help students acquire complex skills by reinforcing approximations of the end result.¹³⁷

Successive approximation is the process whereby a behavior that is most similar to the desired behavior is reinforced. Gradually, only those behaviors that are more and more similar to the desired behavior are reinforced.¹³⁸

When teaching the low laryngeal position, shaping will be an important tool. Sounds made at first with a low larynx will be raw, yet by reinforcing those initial successful attempts, teachers will eventually be able to shape behaviors into the desired results. MacMillan notes:

For educators, the shaping procedure is critical. Too often teachers assume that reinforcement should be withheld until the goal behavior is achieved, but learning theory indicates that such a task is less efficient than moving in smaller steps toward that goal.¹³⁹

Modeling

Modeling, or demonstrating in the voice studio, can bring about both positive and negative results, but using modeling effectively can help shorten the shaping procedure.¹⁴⁰ The danger with modeling is that students could potentially develop artificial vocal habits

¹³⁷Poteet, *Behavior Modification; A Practical Guide*, 41.

¹³⁸Greer, *Design for Music Learning*, 139.

¹³⁹MacMillan, *Behavior Modification in Education*, 86.

¹⁴⁰*Ibid.*, 89.

while attempting to sound like a mature teacher. However, successful demonstrations by teachers and a healthy exposure to live singers and a variety of recordings, can stimulate an ear for the operatic sound and thereby aid students in their singing process. Most learning incorporates some degree of modeling.¹⁴¹ In the process of teaching students to maintain the low laryngeal position, modeling is very important. Students must become familiar with the kinds of sounds made with the low laryngeal position. As the student progresses, it will be helpful if teachers not only model certain sounds for students, but also play recordings of other singers with similar techniques. In particular, students (especially tenors) should become familiar with how the voice sounds in the passaggio area with regards to vowel modification. When students develop an ear for low-larynx singing through modeling, they will be able to monitor themselves better in their process of acquiring the low laryngeal position.

Discrimination

The claim “learning involves increasing one’s discriminations,” applies well to vocal learning.¹⁴² Singers need to develop a sense of what types of singing behaviors are positive and which ones are negative. In addition, they should know the contexts in which certain behaviors should and should not occur. Behavior methods suggest that teaching students to discriminate effectively will help them maintain good behaviors while away from the influence of the teacher. Teachers may listen to recordings with students and discuss good and bad qualities of sound in order to help the singer develop good discriminations. When students can discriminate independently between positive and negative singing behaviors in themselves and others, they will also be more objective in their self-assessment, and they will be able to distinguish between worthy and unworthy reinforcers.

Generalization

Generalization should be the aim of all behavioral methods. It is described as, “The process whereby the learner transfers or generalizes a response in conjunction with one

¹⁴¹Greer, *Design for Music Learning*, 15.

¹⁴²Ibid., 136.

stimulus to another stimulus.” When a student learns a new vocal skill, and can reproduce it in various contexts without the teacher, generalization has occurred.

Applying the Principles

Now that the reader has a general understanding of behavior modification and its important principles, it is valuable to discuss a format in which behavior techniques apply to the issue of laryngeal stability.

The first step is to perform a *baseline evaluation* on the singer’s current behaviors regarding laryngeal elevation. This could simply consist of the teacher making a videotape of the voice lesson, and then evaluating and recording the results. In this process the teacher should identify specific indicators of the rising larynx, and record their number of occurrences. These indicators will include those discussed in previous chapters, namely visible rising of the larynx, chin elevation and/or jutting, neck tension, and collapsing chest/poor posture.

By recording the occurrences of these behaviors, the teacher can measure success and progress once the process has begun. Instead of measuring all the behaviors of an entire lesson, teachers may focus on a few minutes during the actual singing of repertoire, which may reveal more about the singer’s tendencies than vocalises. By making a baseline evaluation, teachers can discover patterns of behavior which may lead to discoveries of other important issues and problems.¹⁴³ The following table is a hypothetical sample evaluation of a baseline exam:

Poteet, *Behavior Modification; A Practical Guide*, 12.

TABLE 2

HYPOTHETICAL BASELINE EVALUATION

Behavior Observed	# of Occurrences/Time	Notes
Visible upward movement of Adam's apple at vocal onset	17 /5 minutes	Larynx pops upward when onset is in middle voice or above
Visible upward movement of Adam's apple with ascending pitch	22/5 minutes	Larynx rises when ascending from low voice into middle or high
Chin rising with pitch	12/5 minutes	Chin movement observed in ascending skips
Jaw jutting forward	6/5 minutes	Jaw seems to clench and 'set' with held notes in middle voice and up
Craning neck	22/5 minutes	Neck is craned at all times except when at rest and when in low range
Noisy gasp at inhalation	5/5 minutes	Gasps occur after high, difficult phrases
Collapsing chest	15/5 minutes	Most breathing is clavicular when there is a short time to breathe
Noticeable changes in voice quality	22/5 minutes	Voice becomes thin, and grainy in upper voice
Open, yell-like sounds	3/5 minutes	Yells occurred on <i>passaggio</i> F's and G's

After a thorough baseline evaluation, problem behaviors should become apparent, and teachers should then make a list of behaviors that need work and prioritize it. When the teacher knows which specific behaviors contribute to instability of the larynx, they should select which of those behaviors to target with the student. Instead of choosing negative behaviors to eliminate, teachers should use counter conditioning by finding alternative

positive behaviors which will replace the negative behaviors, thereby eliminating the problem. It is much more productive to give a student a new behavior to implement than it is to try to get rid of an old habitual behavior. “As you are attempting to target a behavior, reconsider the problem and attempt to make the target behavior such that an increase rather than a decrease of behavior is desired.”¹⁴⁴ Targeting alternative positive behaviors will help the student feel productive and optimistic about their singing, which is particularly important when dealing with vulnerable and sensitive singers.

Based on the hypothetical table above, the student has an obvious case of laryngeal elevation as evidenced by a visibly rising larynx, a rising chin, jutting jaw, craned neck, and chest breathing. Each of those behaviors can be replaced with alternative positive behaviors, as noted in the following table:

TABLE 3
SAMPLE OF POSITIVE BEHAVIOR ALTERNATIVES
FOR COUNTER-CONDITIONING

Negative Behavior	Alternative Positive Behavior to Reinforce
Rising larynx at vocal onset	Incipient yawn onset/release exercises, larynx tracking, primal sounds
Rising chin with mounting pitch	Slightly tucked chin
Jutting jaw	Chewing method exercises
Craning neck	Long, noble neck
Chest breathing	Noble sternum posture

Ibid., 9.

Implementation

The first step in implementing the behavioral approach is to introduce the low-larynx concept to the student. Teachers should explain the pedagogical basis of the low larynx technique, noting all the virtues of the technique and the disadvantages of the unstable larynx (as noted in chapter 4). As a result, students should arrive at the realization that no matter how well they managed with the old technique, the stable larynx will bring a remarkable improvement.

After selecting new target behaviors, it is time to begin to implement them behaviorally. The teacher should sit down with the student and explain the findings of the baseline evaluation and discuss the target behaviors. Teachers should provide rationales for all new behaviors, so the student understands why the skills are important. Together, student and teacher set goals for the semester or for the next few months and decide on a timetable for the implementation of each of the new behaviors. They should also decide on some rewards for the student upon completion of the set objectives. Goals should be specific, challenging for the student, and yet reachable. Within a school setting, grades and school deadlines can serve as rewards and timetables. Outside of the school setting, teachers need to select rewards and completion dates based on the needs and motivators of the individual student.

Setting reachable and measurable goals will help students focus on specific tasks in the practice room, and give them evidence of improvement. Unfortunately, in the author's experience, clearly defined goals that can easily be measured are a rarity in the voice studio. Too often teachers assess overall sound qualities instead of specific behaviors. Targeting positive behaviors with appropriate goals is an essential part of the behavioral method for laryngeal stabilization.

Here is an example of a reasonable time line to achieve various goals, including some possible rewards:

TABLE 4
GOAL TIMETABLE

Goal	Sample Time-frame	Sample Rewards
Achieve a stable, low larynx (90% of the time)	In 12-15 weeks (One semester)	Participation in an Opera, recital, or major studio event (50% of grade)
Maintain a slightly tucked chin- <i>temporarily</i> (90% of the time)	For one or two lessons	Positive praise (10% of grade)
Achieve a visibly relaxed Jaw (80% of the time)	In 6-7 weeks (By mid-term)	Invitation to sing in studio class (10% of grade)
Maintain optimal neck posture (90% of the time)	For three lessons in a row	Student may select a new song (10% of grade)
Achieve low, diaphragmatic inhalations (90% of the time)	In 6-7 weeks (By mid-term)	Lunch with teacher (10% of grade)
Achieve a noble sternum posture (90% of the time)	In 6-7 weeks (By mid-term)	Certificate signed by teacher (10% of grade)

Table 4 Note: A video tape evaluation should be made at each of the deadline goal dates, so that the teacher can measure progress to determine rewards accurately. Ideally, teacher and student should observe the tape together after the evaluation is made. The above goals are only an example. Teachers should set individualized goals based on their evaluations.

Also imperative in the process of stabilizing the larynx is a willingness of the student to focus on kinesthetic sensations, rather than on the sounds themselves. When students begin to sing with a low laryngeal position, they will make very different sounds than they made with an elevated larynx. New sounds may seem harsh, loud, or ugly during this phase. The new low laryngeal configuration will uproot most of the student's prior technique and cause a period of imbalance. Students will experience decreased vocal range, new demands involving breath management, different registration shifts, and many other issues. This is

normal and only temporary during the initial learning period in which the body adjusts to the new phonatory and structural alignments. Progress will accelerate if students concentrate on physical sensations instead of listening to themselves with a critical ear. If the singer is able to focus on the skills (or behaviors) and the physical sensations instead of the sound, the process will be less painful for him, and the voice that emerges will exceed its old capabilities in every way.

With behaviors targeted, goals set, and students prepared for the challenges ahead, it is time to retrain the voice. The process of finding the low laryngeal position should begin by focusing efforts in the lower middle part of the voice, or the speaking range. Students should be taught to make primal sounds, and should track the movement of their larynges manually as described in chapter 4. As the student begins to produce tones with the low laryngeal position, the teacher should use frequent reinforcing approval. At first, with each new skill, the approval should come after every appropriate response, and then gradually approval can taper off into an intermittent schedule for that skill as the student improves. The teacher must take care to only use approval when a behavior is correct. This will render the teacher's approval more valuable, and avoid confusing the student. Behaviors that are approximately correct may receive reinforcement in conjunction with further instruction or clarification, utilizing the skill of shaping (see successive approximation). Initially, tones produced with the low laryngeal position can sound darker than what is ideal. This darkening is normal, due to the fact that the low laryngeal position creates a longer vocal tract. Teachers should initially allow the darker sound, until the larynx stabilizes. Once the low laryngeal position becomes habitual, teachers can correct resonance and placement issues. When the student reverts to negative behaviors (as they most certainly will in the beginning), the teacher should take mental note, but avoid using disapproval where possible. Instead, simply request that the student try again with an added bit of imagery, instruction, or demonstration, and use approval when the student gets part or all of the behavior right. During each successive lesson, the teacher may implement the other targeted behaviors, and reinforce them accordingly.

Evaluation

As each goal deadline arrives, the teacher should video tape the lesson and perform an evaluation of the specific objective. Evaluations should be based on the frequency of occurrences of the targeted behaviors. If students have achieved their goals, they should receive the contingent reward. If the student has not achieved some of the goals, set new goals and adjust the process and deadlines accordingly.

Teachers also can improve their own effectiveness through self-evaluation. Recording their own behaviors on students' evaluation tapes will reveal any instances of approving inappropriate behaviors, missed reinforcement opportunities, and satiation of approval within their chosen schedule of reinforcement. Where possible, an outside observer (perhaps another teacher) should do an evaluation, thereby providing reliability to the data. By evaluating themselves, teachers can measure their actual practices against the principles of behavior. Evaluation also assists teachers in adjusting their teaching to the needs of the student.

Summary

Behavior modification is a field that is driven by data and numbers. Thousands of behavior studies attest to the importance of observing and measuring behavior to bring about change. While for many these procedures may seem tedious, cold, and clinical, there is a great value in being able to measure progress and assess failures. By contrast, voice teaching is a notoriously subjective field. Success or failure of singers often rests on opinions or impressions of teachers, as opposed to facts. For some teachers and singers, taking a page or two from the behaviorist's book will prove to be a key ingredient to success. In the case of laryngeal stability, the behavioral procedures outlined above provide teachers clear ways to facilitate the journey from high laryngeal singing to low laryngeal singing. By using a baseline evaluation, targeting behaviors and setting goals, structuring contingencies for those goals, using reinforcement techniques, and performing evaluations, teachers can bridge the

gap between what they want their singers to do and what is actually done. This process, when applied to teaching laryngeal stability, equips teachers and singers with powerful tools that can enable appropriate and difficult changes to take place.

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BIOGRAPHICAL SKETCH

Tenor Isaac Hurtado grew up in Provo, Utah. After serving a two-year mission for the Church of Jesus Christ of Latter-day Saints, he earned his B.M. in vocal performance from Brigham Young University, followed by an M.M. in voice performance from the University of Cincinnati College-Conservatory of Music. In April 2005, he completed his DM in voice performance with an emphasis in vocal pedagogy from Florida State University.

Mr. Hurtado has performed with Central City Opera, Opera North, Utah Festival Opera, Opera Theatre of Lucca, Italy, Cincinnati Opera, and Opera Circle of Cleveland. In August 2004, he sang the title role in *Roméo et Juliette* for Festival Opera at Walnut Creek (CA), where he will return in 2005 in the title role of Bernstein's *Candide*. 2005 will also mark Mr. Hurtado's debut with New Orleans Opera.

Mr. Hurtado plans to continue performing and teaching privately before pursuing a professorship. He and his wife Kim are the parents of four (soon to be five) incredible children.