The Most Common Vocal Fault in the Baritone Voice

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The Most Common Vocal Fault in the Baritone Voice

Matthew Derek Cyphert

Doctoral Research Project submitted
to the College of Creative Arts
at West Virginia University

in partial fulfillment of the requirements for the degree of

Doctor of Musical Arts in
Vocal Performance and Literature

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ABSTRACT
The Most Common Vocal Fault in the Baritone Voice

Matthew Derek Cyphert

The purpose of this research project is to create an approachable guide to avoiding the most common vocal fault found in the baritone singing voice. The specific fault being discussed has been coined the “baritone swallow.” This document will explore the history of the baritone singing voice along with information regarding vocal fach identification, an in-depth study of this common vocal fault frequently experienced by baritone singers, and a fault-specific guide to identifying and addressing the “baritone swallow.”
ACKNOWLEDGMENTS:

I would like to thank all those involvement in the creation of this document. That includes those who worked directly in the development, research, and production of the project such as my committee members: Dr. Hope Koehler, Dr. William Koehler, Dr. Matthew Heap, and Prof. Cornel Gabara. Additionally, there were individuals who have unknowingly contributed to this project through previous experiences. Thank you to all those who have supported my educational journey. Without all the love and support of my family, especially my parents and sister, I would not have reached this point. I would also like to acknowledge my voice teachers throughout the years, who have all contributed greatly to my educational experience and my development as a singer and music educator. Thank you to Dr. Mary Logan-Hastings, Dr. Reginald Pittman, Dr. William Koehler, and especially the late Dr. Sarah J. Mantel. You have all inspired me to find my voice and to teach following the principles passed down.

Thank you to everyone who made this project possible!
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CHAPTER 1: INTRODUCTION

Considering the Value of the Project

The inspiration for this project came from my own personal vocal struggles and from the subsequent knowledge learned as I worked to better understand the vocal fault that I have learned plagues many low-voiced singers. The specific fault, coined the “baritone swallow,” is an anatomical fault often associated with baritone-voiced singers. Throughout the course of this project, I aim to present an accessible resource for baritone vocalists and teachers of singing that addresses the phenomenon known as the “baritone swallow.”

“Rare indeed is the young low-voiced male who does not, at least at the beginning of his singing career, assume he must ‘enrich’ his sound by making it ‘spacious’ and ‘warm,’ qualities generally accomplished through a series of adjustments to his larynx and to his vocal tract that greatly disperse the inherently beautiful timbre of his instrument.” ¹ These words were written by famed vocal pedagogue Richard Miller in On the Art of Singing and addresses the phenomenon we are discussing. The all-too-common experience described by Richard Miller is perfectly in line with the observations and outcomes of this research project.

It is important to note that the anticipated audience for this document is intermediate to early advanced vocalists and teachers of singing. It is valuable to make this distinction because this project is written with the assumption that the readers possess a basic understanding of the human voice including the vocal process, vocal anatomy, and vocal physiology.

Research Methodology

Considering the scope of Western musical history, previous research done into similar topics, and the inherently intangible components of any project involving the intricacies of the human voice, approaching this project with a predetermined methodology for research is crucial. From the very beginning of the formal research period for the project, I meticulously investigated the full scope of research available and explored all available literature to ensure a fully supported argument in support of

the goal of the project. That goal being to provide young baritone singers with a resource to help them avoid or correct the “baritone swallow.”

The primary research methodology utilized for this project includes qualitative research, analytical research, descriptive research, and fundamental research. Most information within this topic cannot be grasped in terms of numbers, making the use of qualitative research less useful than other types of research. Linked with the qualitative research methodology, analytical research uses the facts that have been confirmed or generally accepted to form the basis for the research and evaluation of the materials. The use of descriptive methods of research will assist in this type of research considering most of the data is presented in descriptive means. Though much of the project will focus on ideas that have been recognized and studied in the past, there is room for fundamental research that looks for basic information to apply to a topic or theory that has never been researched.

The secondary research method utilized is quantitative research. Though this method is a highly accurate means of research in select situations, quantitative research does not have a strong function when discussing voice specifically. Though it will not be a primary method of research, quantitative research will be used in areas such as voice spectrum analysis and other voice science related topics.

Review of Literature

In general, the majority of information published specifically regarding the phenomenon coined the “baritone swallow” is limited. The ideas have been explored by a few specific voice specialists including Richard Miller and Anthony Frisell but not much more has been published specifically about the baritone voice. With that said, there is still a tremendous amount of research done regarding more generalized voice topics that can be easily applied to this project. In addition to the research found in published books, journal articles, studies, and theses/dissertations, I bring my experience working with and studying the baritone voice to the project, along with the experience of my committee members and those who might be consulted for the project.
One of only two texts with a focus specially on the baritone singing voice, Anthony Frisell’s *The Baritone Voice* is designed as a manual for training the beginning and the advanced baritone singing voice. Though the intent of both of our works is focused on the same topic, I find that Frisell’s text is not often utilized by singers or teachers of singing and is difficult for beginners to comprehend. The aim of this project is to create a work that will be accessible to the beginning baritone vocalist and will assist in avoiding and correcting baritone vocal faults.\(^2\) Similar in purpose to *The Baritone Voice* by Frisell, *Securing Baritone, Bass-Baritone, and Bass Voices* by Richard Miller aims to explore the ins and outs of the lower male vocal classifications. The text does a thorough job at exploring the basics of the topic and serves as a reliable resource for identifying and correcting faults in the low-voiced male. The text is one of the primary resources utilized and cited throughout the project. Richard Miller has been recognized as one of the world’s greatest vocal pedagogues and researchers, and no other author has contributed more to the realm of vocal music research. This text specifically addresses the baritone, bass-baritone, and bass voices but features enough focus on the baritone voice specifically to hold strong relevance to this project.\(^3\)

Due to the limitations of resources directly related to the baritone voice, it was necessary to explore all types of vocal pedagogy, vocal science, and vocal musicology works. Though a majority of the following texts do not address the baritone voice specifically, I have found that many of the discussions are applicable to the baritone voice and this project. Another text written by Richard Miller and highly utilized for this project, *On the Art of Singing* is arguably Miller’s most accessible published text for singers and teachers of singing. The work aims to provide a comprehensive manual discussing the various aspects of becoming a successful singer. This includes traditional discussions of physiology and acoustics of the singing voice, but also includes information regarding auditions, professionalism, and song preparation. The components of this text that will be most valuable to the project are those related to

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physiology and acoustics of the voice. Another Richard Miller text, *National Schools of Singing*, is a study of English, French, German, and Italian techniques of singing where Miller compares the historic practices and current practices in the four major Western music schools of voice. The benefit of the text to the project will be in a reference capacity primarily when considering the various techniques.\(^4\)

One of my personal favorite texts for voice teachers, *Solutions for Singers* by Richard Miller varies itself from other vocal pedagogy textbooks because it focuses on identifying and correcting specific vocal faults. In pedagogy texts, the topics are focused on the vocal mechanism and understanding the workings. But in this text, the focus is aimed at vocal faults and how to correct them successfully. This text serves as a great resource for the project when considering the best means of correction for the faults discussed.\(^5\) Similar in reputation to Richard Miller, Berton Coffin is recognized as one of the most prolific teachers of singing during the mid to late 20th century in the United States of America. Coffin has over half a dozen texts on singing published, all of which are still utilized today in voice teaching. *Historical Vocal Pedagogy* by Coffin looks at insights from some of the greatest teachers of singing in recorded history. Vocal Pedagogues discussed include Tosi, Garcia, Stockhausen, Lamperti, Shakespeare, Lehmann, and more. This text serves as an invaluable look into historical practices of vocal pedagogy to help inform my research and writing.\(^6\)

Another type of resource that proved vital to the project was vocal pedagogy textbooks. These texts were written for the training of teachers of singing and provide a wide-ranging breath of knowledge into the human singing voice. One of these fundamental vocal pedagogy texts that explores the commonly addressed components of voice pedagogy, Clifton Ware’s *Basics of Vocal Pedagogy* is a good resource to provide variety when consulting such texts. I have included multiple books similar to Ware’s for the purpose of having the option of considering various viewpoints. Since the art of voice teaching

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varies between technicians, it will be beneficial to the project to consult multiple trusted professional sources. Another pedagogy focused text written by a highly regarded voice teacher and voice scientist, Meribeth Bunch Dayme is *Dynamics of the Singing Voice*. This book is her most known published work and is highly successful being utilized by vocal pedagogues around the world. Though the text is not specifically focused on the baritone voice, the information discussed is highly applicable to the topic. The text discusses the physiological, psychological, musical and emotional aspects of the voice, particularly as they relate to singing but also to speaking. Similar to the last two selection and one of the most widely used vocal pedagogy textbooks in use today, *The Functional Unity of the Singing Voice* by Barbara Doscher provides reference to the mechanics of the singing voice and insight into vocal pedagogy practices. The text is another that is not specifically focused on the baritone voice but will still provide a generalized view toward the singing voice.

Another personal favorite and a newer text than the others discussed thus far is *What Every Singer Needs to Know about the Body*. Written by masters in the field of vocal pedagogy, vocology, Alexander Technique, and voice science, *What Every Singer Needs to Know about the Body* is a resource with tremendous value to all singers and teachers of singing. The text explores the various components of the vocal mechanism and how the functions of the body overall affect the voice. Also included are numerous examples of exercises used for corrective purposes, that all proved valuable resources for this project. And the voice science text that I found the most useful was written by Kenneth Bozeman, a Professor of Music and Chair of the Voice Department at Lawrence University. Bozeman is recognized as a renowned teacher of singing who has done substantial research and publishing of information regarding voice science for the singer. His text *Practical Vocal Acoustics* is a comprehensive look into the science of vocal acoustics, specifically written for the singer and teacher of singing. This text serves

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as a reference regarding specifics of voice science and acoustics as they relate to the study of the baritone singing voice.¹⁰

In addition to the textbooks utilized for the project, published scholarly works including dissertations and journal articles were consulted. Examples include: Taff, Merle Eugene. *A Study of Vowel Modification and Register Transition in the Male Singing Voice*. Ann Arbor: University Microfilms International, 1989. This study completed by Merle Eugene Taff in 1989 explores the topic of vowel modification in the male singing voice when maneuvering through register changes. Ritzerfeld, Wim G.J., and Donald G. Miller. *Formant Tuning and Feedback in the Male Passaggio*. Journal of Voice 31, no. 4 (2017): 7–506. Written and published in the fourth edition of the Journal of Voice in 2017, this article considers the importance of formant tuning when maneuvering through the male passaggio. Johnson, Aaron M., and Gail B. Kempster. *Classification of the Classical Male Singing Voice Using Long-Term Average Spectrum*. Journal of Voice 25, no. 5 (2011): 538–43. Written by Kempster and Johnson and published in the fifth volume the Journal of Voice in 2011, this article serves as a wonderful resource in regard to the utilization of spectrum analysis to classify singing voices. Considering the act of vocal classification is crucial to a singer’s proper development, it is valuable to consider scientific means of assistance in this process to ensure accuracy. The technique used, Long-Term Average Spectrum (LTAS), is a fast Fourier transform-generated power spectrum of the frequencies comprising a speech sample. Thus, the LTAS is a composite signal representing the spectrum of the glottal source as well as the spectrum or resonant characteristics of the vocal tract. Erickson, Molly L. *Dissimilarity and the Classification of Male Singing Voices*. Journal of Voice 22, no. 3 (2008): 290–99. Written by Molly Erickson and published in the 3rd volume of the 2008 year of the Journal of Singing, this article considers the idea of dissimilarity in the singing voice especially in the male singing voice. It also focuses on the classification of male singing voices.

CHAPTER 2: THE BARITONE VOICE

What is the Baritone Voice?

To understand the specific intricacies of the baritone voice and the faults that plague such voices, it is important to consider the history of the baritone voice. When researching the history of the baritone voice, you will find that the term baritone was not widely used until the beginning of the nineteenth century. Before this period we find that without regard for range or vocal demands, roles in opera and oratorio for low-voiced males were categorized as bass voices. Around the turn of the eighteenth century, composers such as Wolfgang Amadeus Mozart were composing operatic roles perfect for the baritone voice, but these roles were still termed bass roles during this time. It wasn’t until the demands of the public for new theatrical contrast in voices heard in opera specifically reached the ears of the preeminent composers of the time. Throughout this period of change for vocal classification, we see that each of the four primary voice categories slowly becoming identified by subcategories. The categorization system used by professional singers for hundreds of years, the German Fach System, is still used by classically trained singers throughout the world today. Especially important to the casting of operatic roles, Fächer classifications have become widely used vocabulary for singers and teachers of singing within the Western musical tradition.

For the bass fach specifically, the subcategories were initially divided into 1) baritone, 2) bass-baritone, and 3) bass. Once the benefits of correctly identifying vocal classification for both the vocalist and composer were realized, the types of voices heard in opera unfolded to included subcategories of the subcategories. For example, the terms “lyric” or “dramatic” can be added at the beginning of the primary fach to indicate the type of voice more clearly. This has led to multiple classifications for low voiced males including lyric baritone, dramatic baritone, basso cantante, lyric bass, buffo bass, dramatic bass, and even more options. The use of descriptors for types of voices has continued throughout history and is documented throughout all styles of Western vocal history. Today though, it is not as common to hear someone describe themselves by fach outside the operatic or musical theatre world. In the realm of

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popular music in the twenty-first century, it is extremely rare for a performing artist who specializes in recorded music to use vocal classification. Though the usage of vocal categories has fallen out of favor in the public, all teachers of singing and advanced vocalists should be comfortable with the vocal classification system.

Since it is of crucial importance that singers be correctly identified for vocal classification, how does one determine the fach of a vocalist? You will find that many considerations must be made when determining vocal classification and that the process will vary between each individual singer. This is because of the unique characteristics of each individual voice. All human voices are essentially the same in mechanism, primarily varied by size only. But to consider all voices the same would be comparable to saying all pianos sound the same. Those who have heard the difference in beauty between a Steinway piano and an old out-of-tune upright knows that voices can vary greatly even if they are fundamentally the same instrument.

When considering how to appropriately determine a singer’s vocal fault, it is important to understand that voice category is largely determined by the dimensions of the larynx, vocal tract construction, and respiratory and resonance system structures (including pharyngeal cavities, oral cavity, larynx, trachea, bronchi, and overall physical structure). Reference sources have indicated that it is widely accepted by the professional voice community that the lyric baritone voice is the typical male voice. This observation is made by considering the scale of structural variations possible within the male larynx and finding that the lyric baritone voice is the most common or typical of the male voices. Alternate variations of the male voice, such as the dramatic baritone, bass-baritone, bass, and even tenor voices result from laryngeal structures that are larger or smaller than those found in the baritone voice. Upon observation of male speaking voices, you find that most are not excessively low or high in pitch. With that said, those singers who are believed to be tenors frequently speak at a level that is pitched a

\[\text{\footnotesize 12} \text{ Richard Miller, Securing Baritone, Bass-Baritone, and Bass Voices (Oxford: Oxford University Press, 2008), 3.}\]
minor third above the norm. Similarly, you find that those who might be bass voices typically speak about a minor third below the norm.\textsuperscript{13}

Being aware that each larynx is essentially the same mechanism with variations in size, it is important to discredit one widely misguided vocal pedagogical practice. In the world of vocal training, there are individuals who share the viewpoint that to achieve the vocal aesthetics characteristic of each vocal fach, a singer must alter the functions of the instrument. If a singer or teacher of singer believes that the best way to compete with other vocalists of the same fach is to alter the mechanics of the larynx, the quality of sound produced will feature the distortions of timbre only heard in unhealthy voices. In these pedagogical situations you find the tenor voices utilizing one technique of singing and baritone voices another, and the same in the training of soprano and mezzo singers.\textsuperscript{14} Richard Miller addresses the all-too-common occurrences when “A baritone presents himself in competition with one of the standard arias from the Operatic Anthology, emitting a cavernous, sepulchral timbre.” While in contrast we find that “a competing tenor produces a twangy, metallic sound that seems to amalgamate the properties of brass and tin through a catalyst of nasality.”\textsuperscript{15} The critical takeaway from these quotes is that oftentimes vocalists, especially within the operatic realm, utilize whatever means necessary to produce a sound that is as stereotypical of their fach as possible. The problem with this approach is not necessarily that all singers have misconceptions of what is characteristic of their voice type, but rather that singers use these mental images of ideal vocal qualities to push their instruments past healthy means. The idea of a woofy baritone or metallic tenor is not necessarily inaccurate but these qualities should come from healthy vocal function rather than unhealthy timbre coloration. Differing concepts of ideal vocal timbre, varied modes of vocal instruction, and cultural influences, all contribute to the mental image of what qualities determine a vocal fach.\textsuperscript{16}

\textsuperscript{14} Ibid.
\textsuperscript{15} Ibid, 3-4.
\textsuperscript{16} Richard Miller, \textit{National Schools of Singing: English, French, German, and Italian Techniques of Singing Revisited} (Lanham, Md.: Scarecrow Press, 1997), 163.
If you are considering the history of the baritone voice from a musicological perspective, you might feel that designating the baritone voice as the typical male instrument may seem to discount the historical evidence that shows the category of baritone did not exist until well into modern vocal history. “Basses, tenors, eunuchs, and in some literatures falsettists did indeed perform the male vocal music of earlier centuries.” 17 But one should consider that the term baritone was simply a means of describing a commonly heard vocal range and quality, not necessarily an invention in itself. In the study of vocal literature, you find that many of the compositions of the seventeenth and eighteenth centuries written for the male voice were designed to suit a medium vocal range, essentially the baritone voice. Though the term ‘baritone’ is not the oldest fach found in the history of singing, the medium voiced male singer has been a utilized component of compositions far before the creation of the baritone classification.

When considering the fach of a particular vocalist, we often find pedagogues utilizing personal tonal ideals, developed through cultural influence and the national school of singing that is most known to the teacher. If we were to ask ourselves what is most important when determining vocal category, we find that all considerations have value but often the latter mentioned are more utilized than physical evaluation of the singer. When talking specifically about vocal classification in a pedagogical setting, it would be unwise to disregard the history of the “National Schools of Singing.” In Western musical history, we find four primary National Schools of Singing that include the French School, the German School, the Italian School, and the English School. From a general perspective, all the Schools of Singing share more similarities than differences. You will find though that each School has differentiating viewpoints on particular vocal ideals that have been firmly established in the realm of Western musical history over the last few centuries. These differentiations between National Schools of Singing, are only observed by those who have devoted their lives to the study and understanding of the human voice. It is very unlikely that someone with limited to no training in the vocal arts would be able to identify any of these factors that are used to separate slightly varied styles of vocal pedagogy.

17 Richard Miller, National Schools of Singing: English, French, German, and Italian Techniques of Singing Revisited (Lanham, Md.: Scarecrow Press, 1997), 164.
Exploring Recognized Types of Baritone Voices

Determining the appropriate *fach*, or vocal classification, for a singer is a task that takes extensive experience, knowledge, and aural skill. A task often completed by choir directors, musical directors, voice teachers, and general music teachers, vocal categorization is of crucial importance to the training singer. For our purposes, we are going to explore the most recognized types of baritone voices. This list might not contain all the varieties of baritone voices that could be considered but rather attempts to address a key variety of options. To aid in the understanding of the differentiating aspects of each *fach*, examples of operatic roles, musical theatre roles, and specific singers are provided. It is important to note though that some roles in opera and musical theatre are often performed by singers of varying classification. Though a role might be traditionally played by a lyric baritone for example, there are times when a more dramatic voiced baritone will perform the role. One role that we often see this happening to is Guglielmo from *Cosi fan tutte* by Mozart, often performed by multiple classifications of baritone.

The professional singing community is quickly coming around to the idea of exploring additional or alternate vocal classifications. These changes are necessary to effectively address vocal types in a music society with such quickly changing styles of singing.

**Recognized Classifications of Baritone Voices:**

<table>
<thead>
<tr>
<th>Lyric Baritone (lyrischer Bariton):</th>
</tr>
</thead>
<tbody>
<tr>
<td>The lyric baritone voice is the most common voice in male singers.</td>
</tr>
<tr>
<td>The range of a lyric baritone is typical of the baritone range, but with an upper extension of a couple notes for higher passages.</td>
</tr>
<tr>
<td>The lower range of lyric baritone is not typically the strongest component of the voice, but it is still utilizable for performance.</td>
</tr>
<tr>
<td>Most of the operatic and art-song literature utilizes the lyric baritone voice.</td>
</tr>
<tr>
<td>The lyric baritone is often seen as one of the major roles in the lyric theatre.</td>
</tr>
<tr>
<td>The bel canto ideals of agility and sostenuto are utilized by lyric baritones.</td>
</tr>
</tbody>
</table>


*Note: The provided vocal classification diagram has been compiled from a composite of sources, directed by the personal knowledge and pedagogical beliefs of the author. Many sources discuss the topic of vocal classification with variations based on personal preferences. The classifications provided above are meant to showcase the types of baritone voices found in the modern Western musical society.*
Cavalier Baritone (Kavalierbariton):

- The cavalier baritone is a subcategory of the lyric baritone voice, used primarily in the German voice classification system.
- The voice of a cavalier baritone is more powerful than a lyric baritone, but not as powerful as a dramatic baritone.
- The cavalier baritone is often portrayed in opera by a young nobleman.
- Composers such as Strauss, Tchaikovsky, and Verdi used cavalier baritone singers to provide more variety in the low-voiced color heard in opera.
- The range of a cavalier baritone is similar to the lyric baritone range, with roles requiring a strong upper range for higher passages.

Operatic Roles: Escamillo in Carmen, Ford in Falstaff, Don Giovanni in Don Giovanni, Count in Capriccio, and Zurga in Les pêcheurs de perles.

Non-Operatic Baritone:

- Due to the limited use of the vocal classification into the late 20th and early 21st century, it has become commonplace to group all non-classical vocalists as ‘non-operatic baritones.’
- The range and vocal demands of the non-operatic baritone can vary between repertoire and vocal styles utilized.
- Typically, classification as a non-operatic baritone is based on original works performed and the perceived tonal and range qualities of the voice.
- No specific roles but examples of non-operatic baritone singers provided.

Example Singers: David Bowie, Nat King Cole, Bob Dylan, Josh Groban, Jimi Hendrix, Mick Jagger, Elvis Presley, Frank Sinatra, and Bruce Springsteen.

Verdi Baritone:

- The Verdi baritone is a subcategory of the dramatic baritone voice.
- The Verdi baritone fach was developed through the composition of operatic roles by Giuseppe Verdi designed for a new powerful baritone voice.
- In the opera world, the Verdi baritone is considered a coveted instrument.
- The voice must be capable of projection, with the ability to compete with the heavier orchestrations of Verdi.
- The Verdi baritone must have the ability to handle difficult ensemble pieces and must possess an upper range capable of brilliance and power.

Operatic Roles: Amonasro in Aida, Conte di Luna in Il trovatore, Don Carlo in Ernani, Falstaff in Falstaff, Macbeth in Macbeth, Nabucco in Nabucco, Renato in Un ballo in Maschera, Rigoletto in Rigoletto, Rodrigo in Don Carlos, and Simon Boccanegra in Simon Boccanegra.
Baritenor:

- The term baritenor has come into wider use during the 21st century but can be found referenced in books and music back in the mid-18th century.
- Originally used as a descriptive aid rather than vocal category, primarily for vocalists with difficulty in determining whether the singer should be trained as a tenor or a baritone.
- Previously seen as a pejorative term used to describe younger male voices who have a higher baritone voice.
- In musical theatre compositions of the modern era, you find the distinction between tenors, baritones, and basses has melded into one new vocal category; the ‘Baritenor.’
- Shifting away from individual male voice parts in musical theater, as seen during the Golden Age of Musical Theatre, has shifted the training of musical theatre students.

**Operatic Roles:** Hans Sachs in *Die Meistersinger von Nurnberg*, Wotan in *Der Ring des Nibelungen*, and Dr. Schon in *Lulu*.

Heroic Baritone (Heldenbariton):

- The Heldenbariton is another subset of the Dramatic Baritone or Bass-Baritone categories.
- The Heldenbariton or “Heroic Baritone” is a *fach* that is usually associated with the operas of Richard Wagner and is typically used in the German operatic world.
- Heldenbariton repertoire is often sung by bass-baritone voices.
- Heldenbariton roles are less lyrical than traditional baritone roles.

**Operatic Roles:** Hans Sachs in *Die Meistersinger von Nurnberg*, Wotan in *Der Ring des Nibelungen*, and Dr. Schon in *Lulu*.

Character Baritone (Charakterbariton):

- With the character baritone, we must differentiate between comic and character.
- A character baritone is a categorization of baritone voice used only in opera.
- The character baritone is heavy and voluminous, compared to the heroic baritone.
- Most consider cavalier baritones, dramatic baritones, and sometimes baritone buffo to be subsets of the character baritone category.
- The character baritone is vocally harder and more "metallic" than a lyric baritone, making it the typical voice of the character subject.


Baritenor:
\textbf{Bass-Baritone:}

- Though many singers believe themselves to be bass voiced, a true bass is the most rare of the low-voice categories.
- The bass-baritone voice is more common for a low-voiced male than bass.
- The bass-baritone combines the lyricism of the baritone voice with the dramatic richness of the bass voice.
- The timbre of a bass-baritone can be reminiscent of both baritone and bass in quality due to the similarity to both.
- The register shifting events for the bass-baritone occur between those of the baritone voice and the bass voice.


\footnotesize
\textsuperscript{22} Jerome Hines, \textit{The Four Voices of Man} (New York: Limelight Editions, 1997), 57-93.
CHAPTER 3: “THE BARITONE SWALLOW”

What is the “Baritone Swallow?”

Along with my frequent collaborative pianist, the term “Baritone Swallow” was coined during the later years of my undergraduate training. The term was developed to describe a phenomenon found in many baritone voices from amateur to professional vocalist. The “baritone swallow” often develops in the earlier stages of vocal training and is traditionally a subconscious bodily response that occurs due to the personal desire to make a richer tonal quality. The resulting fault in the vocal technique often makes the voice sound and feel more secured to the young baritone but in reality, the timbre is only sounding richer internally due to increased vibrations within the singer’s body due to the trapped voice. When the vocal pathway is hindered by any obstructions, the vocal tone will always be affected. Because of this fact, singers must ensure that the vocal technique being utilized is not obstructing the vocal pathway. With an unobstructed vocal tract, the voice has the potential for ideal resonance and tonal color.

I have found that the most effective means of communicating the quality of the “baritone swallow” is to simply compare the sound to the voice of Muppet’s character Kermit the Frog. Though this example might seem elementary, I have found there are rarely individuals who have not heard Kermit the Frog’s voice. It is also effective to use other professional singers with the uncorrected fault as an example, but with the Kermit example you can avoid offense. Jim Henson, who famously voiced many of the Muppet characters including Kermit, did not suffer from the “baritone swallow” quality when speaking or singing with his true and natural voice. When vocally portraying Kermit, Henson would use the muscular capabilities of his tongue to pull his sound backward into his head (or pharynx) to create the signature sound.

Identifying the Fault

The identification of the cause of vocal difficulties is crucial in providing a solution to the fault, and teachers of singing regularly find that vocalists struggle with tongue related faults regardless of vocal classification.23 Often the case for the baritone voice, faults related to the tongue are highly present.

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throughout the classical vocal realm. In most cases, tongue faults are often hidden from the outside of the body and are detectable only through aural means. The singer themselves might recognize the feeling of muscle tension that will appear to come from the jaw area. But rather the tension is coming from the over tensing of muscles inside and outside the tongue.

The most commonly observed fault in the baritone voice is when the singer’s tongue pulls away from the bottom teeth and heaps up at the back into the oropharynx. This tension of the vocalist’s tongue can cause a surprisingly negative effect on the vocal quality or tonal color. The result, termed the “baritone swallow,” is a muffled and overly dark voice that struggles to project properly. By allowing the tongue to create such a lump, it can fill a large volume of the oropharyngeal isthmus, the area between the oral cavity and oral pharynx. Reducing the volume of this space causes the voice to be absorbed internally and greatly reduces the quality of the vocal tone.

### Exercise 3.1 – Identifying the Difference Between a Tense Muscle and Released Muscle

**Preface to Ex. 3.1:** This exercise is designed to assist singers in differentiating between tensed and released muscles. By experiencing and examining the sensations of tension, you will be able to more accurately identify and correct unnecessary muscle tension.

1) You will begin by clenching one fist as tightly as possible, all while considering the feeling of the tension and stiffness within both the hand and arm.
2) While you continue clenching your fist, take some time to consider the rest of your body in regard to any muscle groups with tension.
3) As you consider your overall physical condition, work to identify how the muscles interact and any overly tense muscle groups.
4) Now that you have identified and considered the overall system of muscles within the body, begin to release the tension in your hand slowly opening up the fist.
5) As the tension within the hand is released, observe the resulting release throughout the arm as well.
6) By experiencing the sensations of muscle tension and actively addressing these actions, you will learn to identify and release needless tension within your vocal mechanism.

### Anatomy and Pathology of the Fault

When attempting to avoid or correct an existing vocal fault, it is crucial to understand the mechanism and functions of the fault. Just as a Doctor of Medicine would determine the specific pathology of an illness, singers and teachers of singing must identify the fault wholly. In most cases the

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fault is recognized first through aural means but the exact cause of the disturbance to the sound is not always known. Once a fault is heard, one must determine the best path back to healthy vocal function.

To understand the pathology, also known as the study and diagnosis of fault through examination and research, one must delve into the anatomy of the problem to pinpoint the necessary correction. In the case of the “baritone swallow,” we find a few factors that come into consideration. In most cases, you will find that the tongue is primarily at fault. In this specific fault it is often the Palatoglossus Muscle that is causing the tongue to draw back into the oropharyngeal space creating a muffled or swallowed vocal tone. When the oropharyngeal isthmus is reduced in volume, the singer will find it impossible to find adequate resonating space in this area for the voice to be fully released. Only when the tongue is free to move at will and does not inhibit the elevation of the palate or formant flexibility, will the singer be able to produce a fully resonate and released vocal tone.

In Figure 3.1 below, you will find a cross section sideview of the human head with anatomical components relevant to the Baritone Swallow indicated.

**Fig. 3.1: Visualizing the Baritone Swallow**

![Cross section sideview of the human head with anatomical components.](image)

**Description (Figure 3.1):** Cross section sideview of the human head with anatomical components.  

*Note: All figures provided in this document have been drawn by Matthew Cyphert.*
The pharyngeal space includes the nasopharynx, oropharynx, and the laryngopharynx. The spaces are not divided by physical barriers but rather differentiated due to their relation to anatomical features. For example, the laryngopharynx is positioned directly above the larynx within the vocal tract, but transitions to the oropharynx behind the oral cavity and then the nasopharynx behind the nasal cavity. This is most easily visualized through the use of anatomical drawings such as figure 3.1 above. You can see the vocal tract, containing the laryngopharynx (green), oropharynx (blue), and nasopharynx (yellow), highlighted to indicate where the pathway transitions between spaces.

The tongue, also referred to as the lingual region, is positioned at the floor of the oral cavity and is attached to the hyoid bone via the hyoglossus and genioglossus muscles. Each tongue is divided down the midline by a fibrous septum and is composed of multiple layers of muscle fibers running in all directions. These muscle fibers of the tongue include intrinsic muscle fibers, that form the body of the tongue and the extrinsic muscle fibers whose fibers join with the dorsum of the tongue and collectively work for the overall function of the tongue. It is because of this complex arrangement of muscles fibers that allow the tongue to form a convex or concave shape, narrow and lengthen, shorten and fatten, and to flatten and broaden the tongue. It is important for every singer’s tongue, regardless of vocal fach, to only occupy as much space as it can occupy without being a hindrance to the vocal tone.26

Example 3.1: mm. 25-28 – “Von ewiger Liebe” by Johannes Brahms

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26 Lilli Lehmann, How To Sing (Luton: Andrews UK Ltd., 2010), Section XXII.
In example 3.1 above, you will find a selection from the popular Johannes Brahms’s lieder entitled “Von ewiger Liebe.” The section, mm. 25 to 28, is showing a single vocal phrase found toward the beginning of this lengthy selection. The purpose of this inclusion is to showcase an example from classical vocal repertoire that has potential for the tongue to pulled backward and swallow the voice. When a singer encounters instances of writing with the potential to negatively affect the healthy and effective use of vocal technique, it is crucial that the vocalist is knowledge about the intricacies of the human voice and what tasks are required of each piece. In this specific example, we find the vocal line initiating on a B3 and ascending to a D4. This severe ascent covering over an octave that moves from this low register, paired with the difficulty of the text during this line make it a potential problem. The German word “Kommt” sustained on the B3 pitch presents a twofold problem for baritones. Initiating phonation on a low pitch, as we see in this example, will have the potential for pressing down on the larynx. This pressing is typically done through unnecessary tensing of the tongue, drawing itself backward into the vocal tract. Additionally, the darkness of the [ɔ] vowel in “Kommt” along with the tensing articulatory motion of the [mt] add to the difficulty of this passage. Without looking out for such potential hurdles and without the knowledge to address these hurdles, most singers will find themselves without an efficient pathway forward.

Considering the complexity of the musculature of the vocal mechanism, it is often helpful to visualize the components of the mechanism. In Figure 3.2 below, the key muscle structures that contribute to the work of the vocal system are highlighted and identified by term. Singers will find that the most important muscles to consider are those that aren’t functioning properly within their particular instrument. In most cases, the muscle or muscle group in question is overly tensing, applying unnecessary pressure on the larynx. Due to the intricate nature of these muscles within this crucial area for singers, we must address the specific functions of the muscles and identify and problem muscles. Often it is found that muscle memory and imperfect vocal technique come together to hinder the release of muscles within the pharyngeal space.
As described in detail by Theodore Dimon in *Anatomy of the Voice*, the “palatoglossus forms the anterior pillar, arises from the soft palate on either side of the uvula and, slopes downward and outward, inserting into the sides of the tongue.” 27 This muscle is responsible for the pulling backward and upward functions of the tongue. It is because of this role that the palatoglossus muscle is of crucial importance to those with a baritone swallow. It is also common to find that the stylopharyngeus muscle is engaged as well, making the pharyngeal resonance sound louder and richer internally to the singer. In most instances, you will find that the fault in the vocal mechanism is caused by the tongue pulling back into the oropharyngeal space, closing a large portion of the cavity.

In figure 3.2 above, you will find a cross-section view of a singer’s pharyngeal space with each of the crucial muscle system identified and highlighted. You can see that numerous muscles work in collaboration within this space to operate the vocal system. Each muscle, or groups of muscles, has a key role in the vocal technique of a singer because without proper use often singers find themselves utilizing large amounts of muscle tension to compensate. It is not necessarily required that all students of voice learn about all the anatomical components of their instrument, especially considering some pedagogical beliefs discourage such training, but you will find it to be a crucial component of a singer’s training when

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you must identify and correct physical vocal faults. If the cause of a vocal fault is not precisely identified, a singer will often find themselves spending numerous practice hours searching for a correction without understanding the problem. This often pushes singers to avoid correcting the problem and in turn struggle throughout their entire singing career, or simply quit singing from frustration.

In the case of tongue tension, the tensing of the muscles will often cause the tongue to pull backward in the pharyngeal space, subsequently closing off the vocal pathway. The muscles that are most applicable to our discuss of the ‘baritone swallow’ include the Superior Longitudinal Muscle, the Vertical and Transverse Muscles, the Inferior Longitudinal Muscles, the Genioglossus Muscle, the Hyoglossus Muscle, and the Palatoglossus Muscle. The specific functions of these key muscles of the tongue are considered below.

<table>
<thead>
<tr>
<th>Primary Functions – Key Muscles of the Tongue:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Superior Longitudinal Muscle</strong> – Elevates the tip and sides of the tongue superiorly, shaping the tongues dorsum into a concavity.</td>
</tr>
<tr>
<td><strong>Vertical Muscle</strong> – Allows for the altering of shape within the tongue. One of the four intrinsic muscles of the tongue, the vertical muscle is entirely confined to the tongue.</td>
</tr>
<tr>
<td><strong>Transverse Muscles</strong> – Helps the tongue to narrow and elongate, along with other general movements of the tongue.</td>
</tr>
<tr>
<td><strong>Inferior Longitudinal Muscles</strong> – The muscle fibers work to curl the apex and lateral sides of the tongue downwards, along with the shortening and retracting actions of the tongue.</td>
</tr>
<tr>
<td><strong>Genioglossus Muscle</strong> – Primarily functions to protrude the tongue anteriorly, as well as move the tongue posteriorly. Additionally, the fibers draw the tip of the tongue back and downward.</td>
</tr>
<tr>
<td><strong>Hyoglossus Muscle</strong> – Acts to both depress and retract the tongue and is linked with the suspensory functions of the larynx because the muscle originates along the whole length of the hyoid bone and inserts into the side of the tongue.</td>
</tr>
<tr>
<td><strong>Palatoglossus Muscle</strong> – Functions to elevate the posterior portion of the tongue and to draw the soft palate inferiorly. The function acts to narrow the diameter of the oropharynx.</td>
</tr>
</tbody>
</table>

Though the anatomical and physiological aspects of the “baritone swallow” and other tension-based faults are of crucial importance to the correction of the fault, there is another aspect that should be considered as well. That additional component or failing in the vocal process, is related to that all-too-often undeniable urge in younger singers to richen vocal timbre in an attempt to sing with a stereotypical

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“operatic” sound. This urge to darken vocal tone is only the spark that ignites a series of problems within an individual’s vocal technique, and not the fault itself. When a young singer attempt to sing with a more operatic sound, a series of adjustments must be made in the vocal process of that singers to manage that larger sound being produced. These adjustments are not being done to aid the singer, but rather to provide the singer with crutches supporting the failings. These crutches come in multiple forms but are often tension-based and related to respiration.

In an ideal world, all singers would learn to use their instrument without any confusion or fault due to the methodical approach to singing that covers all bases of knowledge before faults can be established. In a profession though that requires a lifetime of practice, training, and experience, most serious vocal students start singing from a very young age and have establish a personal vocal technique for singing before a teacher of singing has the chance to work with the singer. This means that the teacher is inevitably going to be focused entirely on correcting existing faults that have been established over years of singing. Through the correction of the faults, singers will often learn about the intricacies of the human singing voice and how to effectively utilize the singing instrument. When we consider the vast nature of the knowledge required to fully understand the singing voice and specifically to implement that knowledge in one’s own singing voice, it is easy to see how faults are developed before they can be avoided. As teachers of singing, we are more-often than not in this type of situation, holding the responsibility for providing the necessary corrections to assist the singer in more effectively using their instrument. Since this is the reality for most singers and teachers of singing, it is crucial to understand that once one component of the vocal process is hindered, the rest of the system will be required to make up the difference.

For example, we have learned that the “baritone swallow” is essentially caused by the muscles within and around the tongue pulling backward to close off the oropharyngeal space. The resulting effects of this action are multiple and put tremendous strain on the vocal system, far past the fundamental fault of overly tensing the muscles of the tongue. Once the oropharynx is closed down in diameter, the singer will often feel as though it is easier to sing into their higher range and are also mistaken in thinking the sound is richer as well due to the closure. Though this feels like the case for singers struggling with
this situation, the action of pulling back the tongue to close oropharyngeal space is in no way assisting the overall vocal technique. Once the tension is established within the movements of the tongue, you will find that the “baritone swallow” becomes a crutch to healthy and progressing voice. Once the singer has fallen under the misconceptions of the “swallow,” the rest of the vocal process is not required to work as hard to support. This is due to the closure of the oropharyngeal space, because it feels easier to manage breath support when singing through a smaller diameter pathway. Now that the rest of the system can take a break while the tension within the tongue and throat supports the instrument, the rest of the vocal technique will dwindle away and not progress forward. This will leave the singer with an overall vocal technique with inefficient breath control that is never able to grow in strength.

The following selection, example 3.2, comes from the Giuseppe Verdi’s *La Traviata*. This excerpt comes from mm.21-22 of the aria “Di Provenza il mar, il suol” sung by Germant Sr. This piece has become a staple in the repertoire of most baritones but features a few troublesome sections that require tremendous strength and flexibility to successfully execute. One of the most difficult and potentially troublesome phrases within the aria comes at the final building of the first section on the words “Dio mi guidò.” In the example below found in a score reduction of the aria, you will see that this vocal phrase ascends to a G-Flat4 on the phoneme [i].

**Example 3.2: mm. 21-22 – “Di Provenza il mar, il suol” from La Traviata by Giuseppe Verdi**
The potentially treacherous aspect of this phrase comes from the ascent to the extreme high range of the baritone voice, all while maintaining the vowel sound of [i]. Being the smallest and most closed of the vocal phonemes, [i] is often difficult for baritone who are struggling with the “baritone swallow.” Because the sound of [i] requires the most connection into the nasopharynx of the non-nasal phonemes, this sound is often the most pulled back of those sung by struggling baritones. Additionally, since the posture of the tongue is required to raise and release forward for the sound [i], those with tension pulling backward will find this impossible to produce clearly. You will find that the resulting sound is excessively swallowed and unrecognizable from a diction standpoint.
CHAPTER 4: MEANS OF CORRECTION:

Now knowing the basic anatomy of the pharyngeal space and the inner workings of the tongue specifically, how can we work to avoid or correct the “baritone swallow?” We are now aware that a portion of the vocal tract is occupied by the tongue and how easily this space can be compromised by the misuse of the tongue when singing. To find an accurate means of correction that will work with any singer’s specific vocal problems, it is crucial to consider the component of the mechanism that is malfunctioning. In the case of the “baritone swallow,” the four main considerations are 1) the tongue, 2) resonance space, 3) laryngeal position, and 4) nasopharyngeal resonance. Each of these key components are addressed below in detail.

The Proper Role of the Tongue When Singing

A singer’s tongue, operating under the negative impact of muscle memory from the speaking voice, will often incorrectly position itself into the lower throat that blocks the vocal tract. If you have identified that you are struggling with unwanted tension within the tongue when singing, the job is halfway done. Through the use of consistent and healthy adjustments to the singer’s vocal technique, we can learn to release the tension that is unwanted. In the case of the “baritone swallow,” the singer must find a means for releasing the palatoglossus muscle. Since the fault is caused primarily by the drawing back of the tongue through the use of the palatoglossus muscle, the first step in eliminating this fault from your vocal technique is to release the tongue forward while singing. Once the singer has overcome the unwanted muscle memory and learned to release the tongue, it is important to address your new resonance and subsequent timbre. A lifted position of the soft palate allows for an open vocal tract that is ideal for a freely flowing voice. With this preparation of the palate, the voice is more easily able to enter the resonators. This opening of the resonating pathway allows the singer to direct sound upward and outward, providing strengthened register changes and more equality of resonance throughout the voice.

If you are looking for a tool that allows for the mimicking of the sensations of the Baritone Swallow, the retroflex [r] can lead the tongue into the position of the swallow. The retroflex [r] used by most North Americans causes the tongue to recoil back into the oropharynx, creating a sound reminiscent of the Baritone Swallow. If you were to speak the sound of [r] and slow down the sound to 1/10th time,
you will find that the retroflex [r] is heard as an [a] moving into the signature reflex pulling back of the tongue that creates the [r] sound. If you elongate the second component of the [r], when the tongue pulls backward in the oral cavity, you will experience a sensation that closely mimics the “baritone swallow” voice. With that said, the retroflex [r] is not suitable for the singing voice due to the unwanted tension it creates in the tongue and larynx.

**Fig. 4.1: Sideview of Anatomical Structure of the Root of the Tongue**

[Diagram of the anatomical structure of the root of the tongue]

**Description (Figure 4.1):** Cross-section view of the singer’s pharynx with focus on the oropharyngeal space and the structure of the root of the tongue.  

In Figure 4.1 above we see a cross-section view of the human head with a focus on the anatomical structure of the tongue. The key point of consideration is the root of the tongue, which you can see forms close to the chin and lower teeth rather than toward the back of the mouth as many falsely believe. The structure of the human tongue, discussed in chapter 3, is essentially a ball of muscle fibers that work together for articulatory purposes.

When it comes to addressing tension within a singer’s vocal technique, it is important to remember that all movements necessary to articulate the sounds of individual vowels and consonants can be produced without unnecessary tension. With that said, it is widely recognized that many singers utilize

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the tongue to complete the work of other muscles. To appropriately and healthily address the unique pathology of each tension based vocal fault, it is crucial that the singer and teacher of singing fully understand the role of the tongue and how to avoid unnecessary tongue tension.

<table>
<thead>
<tr>
<th>Exercise 4.1 – Exploring the Anatomy of the Human Tongue</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preface to Ex. 4.1:</strong> The purpose of this exercise is to encourage singers to explore the anatomical features of the human tongue. In finding both understanding and control over the muscular capacities of the tongue, a singer will gain freeness from needless tension.</td>
</tr>
<tr>
<td>1) Start the exercise by viewing your mouth with the assistance of a hand mirror.</td>
</tr>
<tr>
<td>2) Explore the flexibility of the lingual region by moving the tongue around in all directions exaggerating every movement. Some teachers will also encourage exploration with your fingers within your own mouth.</td>
</tr>
<tr>
<td>3) Once you have fully explored the flexing capabilities of the tongue, continue the exercise by cycling through [i-e-a-o-u] in your spoken voice and then transition to singing the vowels sounds.</td>
</tr>
<tr>
<td>4) As you speak and sing the cycle of vowels, make observations about movements and unwanted tension. Use this exercise to identify issues with specific muscles/vowels.</td>
</tr>
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<table>
<thead>
<tr>
<th>Vocalise – 4.1:</th>
</tr>
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<tbody>
<tr>
<td><strong>Instructions:</strong> The purpose of this vocalise is to assist the tongue in releasing unwanted tension within any vowel sound. By utilizing consonant combinations such as “vr” and “br” before each vowel, the singer is able to release the tension of the consonant before the vowel is voiced. Be sure to move quickly through the consonants into the vowels.</td>
</tr>
</tbody>
</table>

When a singer is under misconceptions about the role of the tongue in singing, especially the root of the tongue, the vocal tract is ultimately going to be hindered by the actions of the tongue. Most importantly to singers, the key to releasing tension forming at the root of the tongue is to position the tongue in a forward position against the lower teeth. This helps to ensure that the tongue is not tensing and bunching up into the vocal tract. This tension will not release during the act of phonation but rather must be setup before phonation. This is addressed by ensuring the tongue posture is positioned forward.
during the inhalation component of the vocal process and by maintaining a tension-free posture throughout the vocal line.

Exercise 4.2 – Basic Tongue Tension Release

Preface to Ex. 4.2: The purpose of this exercise is to identify and release tongue tension.

1) Begin the exercise by viewing your head, neck, and shoulder area in a large mirror.
2) Open your mouth and release your tongue forward over the bottom teeth.
3) When you find release of all tension within the tongue, hold the posture for 15 seconds.
4) Now that the tongue is relaxed, breathe without adding tension or changing posture.
5) Continue cycling through inhalation and exhalation of breath while holding the posture.
6) Once you have found comfort in this posture, start to exhale with an easy breathy tone.
7) As you repeat the cycling of breath with subtle tone, slowly focus into a sung sound.
8) Continue the pattern with tongue released and without adding any unnecessary tension.
9) Slowly incorporate the whole voice without changing posture or adding tension.

Example 4.1: mm. 117-119 – “Hai già vinta la causa! - Vedrò, mentr'io sospiro” from Le nozze di Figaro by Wolfgang Amadeus Mozart

In example 4.1 provided above, you will find an excerpt from one of the most popular operatic arias for baritone. The aria comes from Le nozze di Figaro by Wolfgang Amadeus Mozart and is performed by the Count. The value of this excerpt to this project is due to the inherent difficulty at this moment when considering the “baritone swallow.” There are multiple components of this selection that make it a potential hurdle to avoiding trouble. The first consideration is that this moment comes after over four minutes of strong projected singing, making the system potentially tired and wanting to pull back on healthy technique. Secondly, the dark quality of the “ah” that is sustained at the beginning of phonation for this phrase makes the oral posture pull backward and downward. Additionally, this phrase
happens with a large dynamic shift to forte that is going to require more support and less tension. And finally, this phrase sits right around a passage zone for most baritone singers making it difficult to connect and trust your resonance through the length of the phrase. Being able to identify components of writing that could prove difficult for the singer is crucial to growth and healthy vocal development.

**Finding Proper Pharyngeal and Laryngeal Space for Your Resonance**

One of the crucial considerations necessary for a singer to make is regarding resonance. Without attention to the resonating functions of the singing voice, singers are bound to quickly make unhealthy and unnatural choices that will negatively affect the entire singing apparatus. Such diversions from healthy vocal technique by beginning to intermediate low-voiced singers can often lead to major vocal faults such as the “baritone swallow.” In working to avoid such faults, we need to address how our body is perceiving resonance and how the resonance system should be functioning.

Singers and teachers of singing find it convenient to utilize imagery in regard to resonance sensations. These images can help a singer to consistently produce a resonant vocal tone through imagery of the sensations and necessary movements of their voice, but they can also be more confusing than helpful. You will find that most singers have a strong sensation of what they believe works in their body to produce a nice vocal sound. The shortcoming of the imagery trick is that sometimes the image produces one result in one singer while not always producing the same result in another singer. This is most often seen when a teacher utilizes an imagery trick that they found helpful during their vocal training, but there is no guarantee this trick will work for the student. Due to the inconsistent results of resonance imagery, it is often best to either provide multiple options for images or even better to help the student find an image that matches the correct resonance quality. As we find with all components of training the singing voice, it is crucial that the teacher be not only knowledgeable regarding these complex topics but also flexible in their pedagogical approach.
In support of the healthily flexible vocal mechanism, we find that “in ascending pitch, the vocal folds elongate, an action that diminishes the mass of the fold, thereby increasing their elasticity.”

To the singer, these events are often perceived as changes in resonance sensations. The increased elasticity of the vocal folds affords the singer the ability to ascend in pitch without unwanted tension outside the laryngeal mechanism. With the increased vibratory ratio of the vocal folds, the resonance sensations are shifted higher into the pharynx. The extent that the tongue controls the quality of sound being produced through the vocal tract is often overlooked by singers. Richard Miller tells us in On the Art of Singing that “the tongue is the ringleader in determining resonator-tube shapes” and that the tongue “is something of a bully, lording itself over the rest of the hyoideal and laryngeal positioning.” Without proper utilization of the muscles within and outside the tongue, the vocal resonating capacities will be greatly diminished.

Fig. 4.2: Comparing Neutral Pharyngeal Space vs. Prepared Pharyngeal Space

![Diagram](image)

Description (Figure 4.2): A) unprepared pharyngeal space, B) prepared pharyngeal space for singing.

It is important to recognize the connection between the palate and the tongue when addressing the “baritone swallow.” Through advances in understanding of anatomy of the human voice, we have learned much about the interconnected aspects of the body when singing. The connection between the soft palate and the muscle fibers of the tongue is specifically important to avoiding the “baritone swallow.” The functions of the palate are linked with the tongue, larynx, and hyoid bone. When the palate is depressed,

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the tongue and larynx are elevated constricting the throat. On the other hand, when the palate is raised, we see that the tongue, larynx, and hyoid bone are released and lowered providing the singer with an open vocal tract. Though it takes time to learn how to healthily raise the palate without adding unwanted tension throughout the mechanism, all vocalists can learn to raise the arches of the palate.

In Figure 4.2 above we see this concept of the opposing forces within the pharynx working to provide an appropriately prepared vocal tract for ideal resonance. When the soft palate is lifted, the larynx, tongue, and hyoid bone will release and lower into position, shown by example B. In example A, you see how a lowered soft palate will lead to an elevated and tensed laryngeal mechanism.

**Fig. 4.3: Demonstrating the Suspension of the Laryngeal Mechanism**

![Diagram of the laryngeal mechanism](image)

**Description (Figure 4.3):** Anatomical diagram of the suspensory muscles of the laryngeal mechanism.

Laryngeal position is a topic of importance to all singers due to the negative results of exerting excessive tension against the larynx. Although it is not uncommon for amateur singers to control the laryngeal mechanism forcing the larynx to rise and fall with the changing of pitch, in the classical singing

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world there is no place for manipulation of the larynx. Laryngeal elevation and depression produce vocal timbre alterations that are only considered acceptable in amateur singing and in certain styles of modern singing. In *On the Art of Singing*, Richard Miller points out that extensive study of performing artists throughout history has effectively proven that a stabilized laryngeal position that does not elevate nor depress is a universal mark of good singing.\(^{32}\)

In Figure 4.3 above, we see how the suspensory muscles of the laryngeal mechanism function to hold the larynx in proper balance. The second view presented shows the larynx without the musculature, further demonstrating the flexibility of the larynx. These key muscles work to directly form the suspension of the larynx during the act of singing. More specifically we see that the hyoid bone is located directly above the thyroid cartilage, suspended from the hyoid bone by the thyrohyoid ligament. The thyrohyoid ligament works in collaboration with the thyrohyoid muscle and connects to the thyroid cartilage above the hyoid bone. This provides support for the larynx from above. The thyrohyoid muscle is a continuation of the sternothyroid muscle and originates at the connection of the thyroid cartilage just in front of the sternothyroid. The thyrohyoid runs vertically upward inserting into the hyoid bone.\(^{33}\)

### Exercise 4.3 – Considering the Implications of Pharyngeal and Laryngeal Adjustments

<table>
<thead>
<tr>
<th>Preface to Ex. 4.3: The purpose of this exercise is to inform the singer of the implications of pharyngeal and laryngeal adjustments. If a singer finds themselves utilizing pharynx and larynx adjustments to assist in singing, it is important to identify and remove the adjustments.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Begin the exercise by viewing your head, neck, and shoulder area in a large mirror.</td>
</tr>
<tr>
<td>2) As you look at your posture and overall head placement in relation to the body, aim to make any adjustments necessary to bring your head to a neutral position on your body.</td>
</tr>
<tr>
<td>3) Once you have found your posture, start singing on a cycling of vowels [i-e-a-o-u].</td>
</tr>
<tr>
<td>4) Observe any movements or adjustment taking place once you started phonation.</td>
</tr>
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<td>5) Notice if any particular vowels are causing unnecessary movements or tension.</td>
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<td>6) Continue vocalizing as you make slow adjustments to the posture of the head.</td>
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<td>7) Without straining or pinching the neck, slowly move your head in all directions as far as comfortable. As you move in each direction, aurally take note of any changes to the sound based on these movements.</td>
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<td>8) If you notice changes in vocal timbre or projection when moving the head in any direction, this is a strong indication that you are utilizing the muscles of the neck to put undue tension against the larynx. If the larynx is suspended without unhealthy tension, the vocal quality should not change drastically when adjustments to the head are made.</td>
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Nasality Versus Nasopharyngeal Resonance

Vocal timbre is primarily determined by three key factors that include, how effectively the breath is delivered from the source, actions at the laryngeal level, and how the sound is modified as it moves through the various resonator spaces. When looking at the third of those three factors, you find that resonators can have a drastic effect on the vocal quality. The resonating space within the vocal tract is categorized as the nasopharynx, oropharynx, and the laryngopharynx. As we addressed earlier, the spaces are not divided by physical barriers but rather differentiated due to their relation to anatomical features.

Fig. 4.4: Pharyngeal Resonators

Description (Figure 4.4): Cross-section view of the singer’s pharynx with highlighted areas demonstrating the resonating spaces of the vocal tract.

In Figure 4.4 above, the diagram is demonstrating the zones of the pharyngeal resonating space within the vocal tract. This resonating space lies along the vocal tract and is a key component of the singer’s vocal technique. The three zones within the pharyngeal pathway include the laryngopharynx, oropharynx, and nasopharynx. We have already discussed the vocal tract and the resonating capacities and now we are going to focus on the nasal cavity and the role it plays in the act of singing.
Voice scientists, vocologists, and teachers of singing strongly believe that the sinuses do not fulfil the definition of a resonator well due to the nasal cavity being covered in mucous membrane that is sound absorbing. Additionally, the openings are very small and difficult to enlarge making them recognized rarely as a component of the resonating system. This notion links back to the 1960’s when research done by famed voice scientist William Vennard claimed to prove that the sinuses had no effect on singing. He did this by injecting the sinuses of singers with a harmless solution and then recorded them performing in a recital hall. When Vennard aurally compared recordings of unfilled and filled sinuses singing, he concluded that there were no significant differences in resonance. Therefore, his resulting claim was that the vibrations felt by singers in the sinus area when singing were sympathetic in nature and not a component of the overall resonance.\textsuperscript{34} Whether this study has proven what is claimed has been widely disputed inside the medical and vocal community. The important takeaway in regard to our purposes is that resonance sensations are almost always felt by accomplished singers in the sinus or nasal cavity area of the head. This project is not trying to make the claim that the nasal cavity is the fourth undiscovered resonating chamber for the singing voice. What should be recognized though is that the nasal cavity is an area of confirmation for the singer through sensation response. When a singer is able to feel that their voice is effectively connecting through an unimpeded vocal tract, they will feel the underlying resonance sensations following that vocal pathway partially into the maxillary sinuses. Many singers describe these resonance sensations as “masque” sensations because of the sympathetic vibrations through the bone and cartilage of the facial structure.

It is important to remember that we cannot confuse nasality with the ring of the singer’s formant. Nasality that is present in any phoneme except a nasal continuant is considered a distortion of vocal timbre. The only lyric languages that contain nasal components are French and Portuguese. Some vocal techniques overly concentrate on frontal sensation and substituting nasality for the natural ring of the voice. When we think of the “ring” of an operatic voice, though it may seem reminiscent of the ping-like

\textsuperscript{34} Meribeth Bunch Dayme, \textit{Dynamics of the Singing Voice} (Wien; Springer Publishing, 2009), 142.
quality of nasality, a true vocal “ring” is created by the presence of upper harmonic partials as a result of a vowel formant appropriately selected for the singer’s individual voice.

**Exercise 4.4 – Finding Balanced Resonance with Phonetic Mixture Utilization**

<table>
<thead>
<tr>
<th>Preface to Ex. 4.4: This exercise is primarily applicable to intermediate and advanced singers due to the complexity of formant tuning and phonetic mixture. For those singers who have the knowledge to understand such concepts, this exercise explores the ideas of using phonetic mixture to assist in connecting vocal registers and balancing resonance.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) If you are a singer who finds themselves with an excess of richness in your vocal timbre, this exercise will help you to bring your resonance forward.</td>
</tr>
<tr>
<td>2) By using phonetic mixture, the singer can combine the qualities of both frontal and back vowels. This in turn assists the resonance in balancing more equally between bright and dark.</td>
</tr>
<tr>
<td>3) The mixed vowel sound that is most applicable for singers is the [œ] found in German and French. By modifying select vowel sounds to incorporate more mixture, the singer is able to balance resonance more easily.</td>
</tr>
</tbody>
</table>

**Vocalise – 4.4:**

**Instructions:** This exercise uses the ending “ng” sound of words such as “hung” to help singers explore resonance sensations and to balance the resonance once observed.

It is important to remember as a vocalist and as a teacher of singing that there are numerous means of correction that have the potential for success in varied situations, but it is crucial that you find the best pathway to fixing each situation based on researching that individual problem. Considering every singer’s voice and faults are unique, every corrective situation is different and requires patience and flexibility. This is an idea that must be understood by vocalists and teachers of singing. In every pedagogical situation related to the singing voice, there might be hundreds of potential pathways to follow. When selecting the correct pathway for oneself or a student, the most important considerations to make are regarding that individual’s voice. With a strong understanding of healthy techniques and an approach that will be accepted well by the singer’s vocal system, you should be able to find the correct
path. But without this knowledge and flexibly, there is a strong potential that the student will be lost within the maze of correction confusion.
CHAPTER 5: AVOIDING FALSE CORRECTIONS:

In any corrective situation, it is important to avoid false corrections. These ill-advised pathways for attempted repair of the vocal technique will only result in a further confused voice. When dealing with an intricate mechanism such as the voice, it is vital that the guidance be accurate and appropriate. It is necessary to identify the specific fault, the pathology of the fault, and apply a correction that will direct the singer into a place of vocal certainty with no remaining elements of the fault. Throughout my experience I have encountered many individuals who were keen to provide corrective advice regarding my singing, but through trial and error I found that not all advice is equal. Often the intention is misinterpreted by the singer, or the advice might be misguided due to a lack of understanding or experience with your unique voice. The blame lies with no one in such situations, but it is best to avoid whenever possible for the sake of your instrument.

The “Yawn, Press, and Lock”

The false correction that I have termed the “Yawn, Press, and Lock,” is one of the most common pathways taken by low-voiced male singers. This technique, that is often recommended by teachers of singing and choir directors, will create a tremendous amount of needless tension on the laryngeal mechanism. The phenomenon of the “yawn, press, and lock” is experienced when a singer utilizes the suspensory muscles of the laryngeal mechanism to press the larynx downward and maintains the distended posture through phonation. The resulting vocal quality is greatly hinder, often presenting as a hollow and airy vocal timbre. Due to the flexibility of the suspensory capabilities of the larynx, singers must address any unwanted tension placed upon the larynx.

In example 5.1 below, you will find an aria phrase from the Bellini opera I Puritani. The aria is entitled “Ah! per sempre io ti perdei” and the selection is focused on mm. 37 to 38. When considering the action of the “yawn, press, and lock” and when it is most present within the voice, it is difficult to find a small excerpt. Rather you will find that most individuals struggling with this situation will maintain the fault throughout every note of a piece without regard for changes. This is primarily due to the locking fashion of the mechanism, which stays in place throughout the course of phonation. Though this example comes from a small two-measure section of an aria, it is still fitting to showcase potential difficulties for
those trying to avoid the “yawn, press, and lock.” When considering the vocal phrase being presented below, the most obvious aspect would be how the phrase ends with such an extreme descent down to an A-Flat2 on the vowel sound [i]. We have already established that the [i] vowel is dangerous for most fighting the “baritone swallow,” but once combined with the rapid descent of the vocal line down to the lowest reaches of the baritone’s projectable range, most singers find this passage a challenge. It is likely that if a baritone struggling with unnecessary tension within their mechanism attempts this downward moving phrase, the larynx will drop downward locking itself into a hollow and distended place making the voice incapable of projecting the low note over the orchestration.

**Example 5.1: mm. 37-38 – “Ah! per sempre io ti perdei” from *I Puritani* by Vincenzo Bellini**

![Example music notation](image)

In Figure 5.1 below, you will see a modal of the laryngeal mechanism stripped of all tendons and muscles. The view of the larynx without these components obstructing the visualization of this mechanism is a tremendous tool to singers and teachers of singing. This type of modal showcases the freedom of mobility that is possible for the larynx. The three red arrows placed on figure 5.1 indicate all the directions that the larynx is capable of shifting. Through the support of muscles and tendons, this bone and cartilage-based structure is able to elevate, lower, shift forward and back, and rock from the pivot point between the structures. The larynx is essentially suspended in place only by muscles and can be controlled for the benefit or detriment of the singer.
Description (Figure 5.1): Anatomical example demonstrating movements of the laryngeal mechanism.

When a singer utilizes the “yawn, press, and lock,” the extremes of this technique are often the reason for the failure. The belief in lowering the laryngeal mechanism is based in science but is often presented or interpreted to mean that the larynx must be pressed down into the lowest possible position without any flexibility during the act of phonation. Often a singer will lift the larynx, especially on ascending vocal passages, essentially shortening the vocal tract to make the higher pitches easier to attain. The obvious correction to this phenomenon is to train the singer’s laryngeal mechanism to find a healthily flexible suspension. If this correction is performed by simulating a fully distended yawn, pressing the larynx downward, the following phonation will be negatively affected by the laryngeal tension. This tension, brought on by forcing the larynx downward, is often maintained by the singer throughout phonation because it is difficult to break once established. Due to the suspensory functions of the larynx, singers must avoid adding any undue pressure upon this mechanism in any direction. The larynx should be free to move slightly when singing but without major adjustments to assist in the ease of singing.
**Exercise 5.1 – Connecting Healthy Speech Patterns to Vocal Technique**

**Preface to Ex. 5.1:** This exercise is seemingly the simplest of those within the document, but most singers will find it difficult to execute correctly. Through the assistance of a healthy speaking voice, this exercise helps singers to reduce unneeded changes when transitions to your singing voice.

1) This exercise works best when you select a poem, passage from a book, or song lyrics to read rather than focusing on thinking of words to say.

2) Begin the exercise by speaking your selected text aloud at a normal volume level and in a normal conversational speaking nature. Slowly starting building in volume level until you reach a medium volume but be sure to maintain the same qualities of speech.

3) The next step is to increase your voice progressively louder until you have reached a level loud enough to project to the back of a small room. Feel the growth happening without any additional tension, but rather more support from the respiratory system.

4) Moving onward you will continue speaking with the same mechanics and fundamentals but now you are going to project your sound in a declamatory fashion that would project to the back of a larger church or small auditorium.

5) The last step forward is to transition into a ‘speech-singing’ presentation of the text with the most projection of the process. The qualities of speaking should still be recognized fully but with more far more connected and sung fashion.

6) As you build into a fully sung voice, you need to be sure to remember that your voice never needs to be pushed so far that it has no connection to your natural speaking voice.

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**Pushing Sound Forward without Releasing the Root of the Tongue**

The final false correction typically used to address the “baritone swallow” is pushing vocal resonance forward without releasing the tension in the root of the tongue beforehand. We have already addressed the resonating qualities of the vocal pathway and have established that the nasal cavity is not an ideal resonator. Singer’s struggling with the “baritone swallow” will eventually recognize that the vocal timbre is too dark due to the closed off oropharyngeal space. To combat the falsely dark quality of the vocal tone, most singers will attempt to push the resonating capacities of the voice forward toward the nasal cavity to provide brighter colorization of the timbre. Similar to the other false corrections, this idea is based on valid assumptions but is slightly misguided if not addressed correctly. The common misconception is that the adjustment in resonance is enough to correct the voice. The timbre of the voice might be enhanced or balanced slightly but the tension within the tongue will continue to be heard in the muffled quality of the voice. It is crucial that a singer addressing this situation release the tension within the tongue before moving the resonance forward.
Fig. 5.2: Closeup View of the Root of the Tongue

Description (Figure 5.2): Cross-section view of singer’s pharynx with focus on the root of the tongue.

When we look at Figure 5.2 above, we are reminded of the anatomy of the tongue and especially the root structure. If a singer was to use the force of the voice to push sound forward, typically into the nasal cavity without releasing the tension within the tongue, the singer will never realize the true freedom of their own voice. The product might sound more balanced in regard to the bright and dark qualities of the vocal timbre, but the singer will always struggle with tension in the tongue closing the oropharynx.

Exercise 5.2 – Experiencing Nasopharyngeal Resonance with Nasal Phonemes

Preface to Ex. 5.2: This exercise is another targeted at the advanced singer but can used by less experienced singers with assistance from a teacher. By using nasal phonemes, a singer is able to experience sensations reminiscent of nasopharyngeal resonance.

Vocalise – 5.2:

Instructions: While vocalizing on the nasal phonemes of [m] and [n], you will cycle through intervals of a fifth. As you modulate by half-steps in both directions, you will find the exercise moving through multiple register shifts. These transitions are all aided by the connection to nasopharyngeal resonance provided by the nasal phoneme.
CHAPTER 6: CONCLUSION:

Key Takeaways from the Project

The anticipated conclusion is that this document will serve as an introductory guide toward the goal of preventing and correcting the most-commonly experienced vocal fault in the baritone singing voice, the “baritone swallow.” It is hoped that the provided solutions to this common problem offer a starting point on the journey to vocal health for struggling baritone singers. This project, that is very important to me due to the close nature of the topic to my own vocal struggles, will hopefully help baritones looking for guidance through typical vocal struggles.

Throughout the course of this document, we have addressed many components of the complex system that is the baritone singing voice. We have explored the definition of the “baritone voice” and the varied classifications the category contains. The differences and similarities of all lower-voiced male singers have been considered. The value of the German fach system has been explored and the developments of the modern age on singing were taken into consideration as well. It has been established through years of personal observation and research of literature that the struggles of the baritone voice often stem from the desire to advance one’s vocal quality by unnaturally ‘enriching’ the timbre. The resulting effects on the rest of the vocal process have been addressed in detail.

Additionally, we explored the anatomical components of this specific fault. By gaining knowledge about the workings of the system, singers are able to not only effectively utilize their instrument but make necessary adjustments through analysis and correction. We have established the complex entanglement of the physical and mental components of this fault and started presenting ideas that will guide a singer back onto a healthy pathway. In all corrective vocal situations, those acting as practitioner must understand the responsibility of guiding struggling singers.

The means of correction that have been presented in this document are simply a few suggestions that will hopefully inspire the readers to explore possible solutions. This document is not meant to be a comprehensive guide toward the correction of all vocal faults, but rather focused specifically on the most common faults. Also discussed were a few false corrections that are often encountered when working with baritone voices. It is important for every singer to trust the advice of those working with them, but
there are times when suggestions are misinterpreted or simply not the correct path for the singer. Flexibility in these situations is best to avoid discouraging the singer. It just takes the precise correction, that will click with the singer and help them to find their way to ideal vocal production.

It is the hope of the author that this project will serve as a reference material for singers and teachers of singing but also to inspire vocalists to explore their voice from varied perspectives. As a vocalist who has struggled with the problems discussed in this document, I have learned the importance of addressing vocal faults earlier rather than later.
BIBLIOGRAPHY:


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https://doi.org/10.1016/j.jvoice.2010.05.009.


APPENDIX:

**Figure 3.1: Visualizing the Baritone Swallow**

Description (Figure 3.1): Cross section sideview of the human head with anatomical components.

**Figure 3.2: Musculature Structure of the Pharyngeal Space**

Description (Figure 3.2): Cross-section view of the musculature structure of the pharynx.
**Figure 4.1: Sideview of Anatomical Structure of the Root of the Tongue**

Description (Figure 4.1): Cross-section view of the singer’s pharynx with focus on the oropharyngeal space and the structure of the root of the tongue.

**Figure 4.2: Comparing Neutral Pharyngeal Space vs. Prepared Pharyngeal Space**

Description (Figure 4.2): Examples of A) an unprepared pharyngeal space, compared to B) a properly prepared pharyngeal space for singing.
**Figure 4.3: Demonstrating the Suspension of the Laryngeal Mechanism**

Description (Figure 4.3): Anatomical diagram of the A) suspensory muscles of the laryngeal mechanism, and B) the larynx without the musculature, demonstrating the suspending function of the larynx.

**Figure 4.4: Pharyngeal Resonators**

Description (Figure 4.4): Cross-section view of the singer’s pharynx with highlighted divisions demonstrating the resonating spaces of the vocal tract.
**Figure 5.1: Pressing Down of the Laryngeal Mechanism**

Description (Figure 5.1): Anatomical example demonstrating movements of the laryngeal mechanism.

**Figure 5.2: Closeup View of the Root of the Tongue**

Description (Figure 5.2): Cross-section view of singer’s pharynx with focus on the root of the tongue.

**Example 3.1: mm. 25-28 – “Von ewiger Liebe” by Johannes Brahms**
Example 3.2: mm. 21-22 – “Di Provenza il mar, il suol” from La Traviata by Giuseppe Verdi

Example 4.1: mm. 117-119 – “Hai già vinta la causa! - Vedrò, mentr’io sospiro” from Le nozze di Figaro by Wolfgang Amadeus Mozart

Example 5.1: mm. 37-38 – “Ah! per sempre io ti perdei” from I Puritani by Vincenzo Bellini
Exercise 3.1 – Identifying the Difference Between a Tense Muscle and Released Muscle

Preface to Ex. 3.1: This exercise is designed to assist singers in differentiating between tensed and released muscles. By experiencing and examining the sensations of tension, you will be able to more accurately identify and correct undue muscle tension.

7) You will begin by clenching one fist as tightly as possible, all while considering the feeling of the tension and stiffness within both the hand and arm.
8) While you continue clenching your fist, take some time to consider the rest of your body in regard to any muscle groups with tension.
9) As you consider your overall physical condition, work to identify how the muscles interact and any overly tense muscle groups.
10) Now that you have identified and considered the overall system of muscles within the body, begin to release the tension in your hand slowly opening up the fist.
11) As the tension within the hand is released, observe the resulting release throughout the arm as well.
12) By experiencing the sensations of muscle tension and actively addressing these actions, you will learn to identify and release undue tension within your vocal mechanism.

Exercise 4.1 – Exploring the Anatomy of the Human Tongue

Preface to Ex. 4.1: The purpose of this exercise is to encourage singers to explore the anatomical features of the human tongue. In finding both understanding and control over the muscular capacities of the tongue, a singer will gain freeness from undue tension.

5) Start the exercise by viewing your mouth with the assistance of a hand mirror.
6) Explore the flexibility of the lingual region by moving the tongue around in all directions exaggerating every movement. Some teachers will also encourage exploration with your fingers within your own mouth.
7) Once you have fully explored the flexing capabilities of the tongue, continue the exercise by cycling through [i-e-a-o-u] in your spoken voice and then transition to singing the vowels sounds.
8) As you speak and sing the cycle of vowels, make observations about movements and unwanted tension. Use this exercise to identify issues with specific muscles/vowels.

Vocalise 4.1:

Instructions: The purpose of this vocalise is to assist the tongue in releasing unwanted tension within any vowel sound. By utilizing consonant combinations such as ‘vr’ and ‘br’ before each vowel, the singer is able to release the tension of the consonant before the vowel is voiced. Be sure to move quickly through the consonants into the vowels.

Baritone

\[
\text{Vocalise: vr - vra - vri, vra - vro - vru, bra - bre - bri}
\]

Piano
**Exercise 4.3 – Considering the Implications of Pharyngeal and Laryngeal Adjustments**

**Preface to Ex. 4.3:** The purpose of this exercise is to inform the singer of the implications of pharyngeal and laryngeal adjustments. If a singer finds themselves utilizing pharynx and larynx adjustments to assist in singing, it is important to identify and remove the adjustments.

9) Begin the exercise by viewing your head, neck, and shoulder area in a large mirror.
10) As you look at your posture and overall head placement in relation to the body, aim to make any adjustments necessary to bring your head to a neutral position on your body.
11) Once you have found your posture, start singing on a cycling of vowels [i-e-a-o-u].
12) Observe any movements or adjustment taking place once you started phonation.
13) Notice if any particular vowels are causing unnecessary movements or tension.
14) Continue vocalizing as you make slow adjustments to the posture of the head.
15) Without straining or pinching the neck, slowly move your head in all directions as far as comfortable. As you move in each direction, aurally take note of any changes to the sound based on these movements.
16) If you notice changes in vocal timbre or projection when moving the head in any direction, this is a strong indication that you are utilizing the muscles of the neck to put undue tension against the larynx. If the larynx is suspended without undue tension, the vocal quality should not change drastically when adjustments to the head are made.

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**Preface to Ex. 4.4:** This exercise is primarily applicable to intermediate and advanced singers due to the complexity of formant tuning and phonetic mixture. For those singers who have the knowledge to understand such concepts, this exercise explores the ideas of using phonetic mixture to assist in connecting vocal registers and balancing resonance.

4) If you are a singer who finds themselves with an excess of richness in your vocal timbre, this exercise will help you to bring your resonance forward out of the oropharynx.
5) By using phonetic mixture, the singer can combine the qualities of both frontal and back vowel. This in turn assists the resonance in balancing more equally between bright and dark.
6) The mixed vowel sound that is most applicable for singers is the [œ] found in German and French. By modifying select vowel sounds to incorporate more mixture, the singer is able to balance resonance more easily.

**Vocalise – 4.4:**

**Instructions:** This exercise uses the ending ‘ng’ sound of words such as “hung” to help singers explore resonance sensations and to balance the resonance once observed.
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9) The next step is to increase your voice progressively louder until you have reached a level loud enough to project to the back of a small room. Feel the growth happening without any additional tension, but rather more support from the respiratory system.

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