

THE ENSEMBLE SOUND: TOWARDS A CURRICULUM FOR DEVELOPING ENSEMBLE-
BASED SINGING STRATEGIES

by

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To Ms. Betty

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Chapter 1: INTRODUCTION

In many University settings today there exists something of an unfortunate, unspoken schism between two closely related departments: the Voice department and the Choral department.¹ Undergraduate singers receive the entirety of their technical vocal training learning operatically-based solo singing from their applied voice professors, yet spend several hours a week in choral ensembles, where they are required to blend, reshape, and refocus their instruments to match other singers' voices with very little personal guidance or pedagogical explanation. In today's collegiate choral atmosphere, methods of choral singing may be conveyed expertly from the most brilliant of choral conductors, but as most university choral ensembles are comprised of at least 30 singers, rarely are such skills developed on a smaller-scale or individual level. In singers who struggle to incorporate these methods on their own, this gap in concrete pedagogical knowledge and personalized coaching can result in a perceived inability to perform certain styles of music.

Up until recently, many choral singers formulate their own technical process for singing in a choir—they draw knowledge from the directions they hear in solo voice lessons, in vocal pedagogy classes, and from the language they hear from their choral directors. In fact, many leading ensemble singers today feel as though they were largely self-reliant in developing the working concept of their ensemble voice. Oftentimes, however, young singers struggle to assimilate language from their choral director and voice teacher, as the demands can sometimes exist in direct conflict with one another. This confusion creates singers who automatically decide that they “don't have a voice for choir” and they miss out on potential musical opportunities. Worse still, a student who unsuccessfully attempts to replicate a choral sound with little

¹ Sharon A. Hansen, Allen Henderson, Scott McCoy, Donald Simonson, and Brenda Smith, "On the Voice: Choral Directors Are from Mars and Voice Teachers Are from Venus: The Top Ten Complaints from Both Sides of the Aisle (or 'The Farmer and the Cowman Should Be Friends')," *The Choral Journal* 52, no. 9 (2012): 52.

knowledge of how the vocal mechanism works can inadvertently create a great deal of tension in their singing.² This tension (and subsequent vocal abuse) can easily slip by unnoticed in a choral rehearsal, where the choral director is busy managing and listening to other singers.³

For voice teachers and professors, their primary goal is, in general, to instill in their students a working technique that is reliable, healthy, sustainable, and flexible. Today's voice students deserve the opportunity to build a modified technical framework for singing in an ensemble that will allow for healthy, sustainable singing and open up a greater variety of professional opportunities—this is especially lucrative for young singers who may not be ready to tackle professional operatic roles, as the bulk of their early professional responsibilities is comprised of primarily ensemble singing—collegiate choirs, church jobs, opera choruses, the occasional choral solo, etc. Indeed, the quantification of a healthy “ensemble voice” is critical for young singers, their voice teachers, and their choral conductors, whose choice of rehearsal language and personal understanding of the ensemble vocal mechanism can make or break this technique.⁴

In addition to pursuing technical excellence, building collaborative musical and leadership skills is essential to the development of today's version of the gigging artist, who regularly balances multiple regional and international engagements while collaborating with singers, conductors, directors, and artistic staff from diverse backgrounds and ideologies, frequently spending multiple months of the year on the road. Through exploring musicality and collaborative etiquette in small, intimate chamber ensemble settings, young singers can discover and nurture musical leadership skills that will carry them beyond the choral rehearsal and into

² Hilary Apfelstadt, Loretta Robinson, and Marc Taylor, "Building Bridges among Choral Conductors, Voice Teachers, and Students," *The Choral Journal* 44, no. 2 (September 2003): 26.

³ *Ibid.*, 26.

⁴ *Ibid.*, 30.

their careers as professional soloists, giving them confidence in their individual artistry and in communicating effectively with their collaborators.

With prominent American choral ensembles such as Roomful of Teeth, Seraphic Fire, Skylark Ensemble, and The Crossing gaining worldwide recognition, universities and music schools are just beginning to acknowledge the value of a healthy ensemble technique and the need for a curriculum surrounding the genre of choral music—the University of Southern California has recently developed undergraduate and graduate degree programs in Choral Music, the University of Redlands offers a Master’s degree in Vocal Chamber Music, Seraphic Fire leads a Professional Choral Institute through the Aspen Music Festival and School, and a number of colleges in Europe (including the University of York and the Royal Conservatoire of Hague, to name a few) offer postgraduate certificate programs in Ensemble Singing.⁵ As many smaller universities might lack the funds to sustain an entire degree program and/or multi-course curriculum around ensemble singing, the inclusion of a semester-long workshop course in ensemble singing methods would bridge that gap and provide a beneficial resource to undergraduate and graduate singers.

To formulate this curriculum for a semester-long workshop course in ensemble singing, my research takes on two distinct components—a review of existing research surrounding ensemble singing strategies and an IRB-approved research study involving interviews with choral conductors, voice teachers, and, most importantly, with singers who balance careers in prominent American choral ensembles with solo engagements. Although there are a number of excellent

⁵ Find more information about these degree and training programs at the following links. For the University of Southern California: <https://music.usc.edu/departments/choral/ba-choral-music/>. For the University of Redlands: <https://www.redlands.edu/study/schools-and-centers/school-of-music/music-admissions/graduate-studies/degree-programs/the-major-in-vocal-chamber-music/>. For Seraphic Fire’s summer training program: <https://www.seraphicfire.org/education/pci/>. For the University of York: <https://www.york.ac.uk/study/postgraduate-taught/courses/ma-music-solo-voice-ensemble-singing/>. For the Royal Conservatoire of Hague: <https://www.koncon.nl/en/programmes/master/vocal/master-ensemblensinging>.

texts and scientific studies that discuss solo vocal pedagogy and technique at great length and detail, the number of sources that specifically discuss choral/ensemble technique from the perspective of the singer is disappointingly small, and the absence of a relevant, definitive pedagogical guide to ensemble singing has been noted.⁶ To make up for the absence of such a textbook geared towards singers, I elected to hear from the professional ensemble singers themselves, interviewing them about their technical approach to choral singing, including: a comparison of solo and ensemble vocal practices; backgrounds in developing their ensemble technique; approaches to ensemble-related styles and skills such as non-vibrato singing, vowel modification, and concepts of blend, resonance, tuning, phrasing, and ensemble leadership; experiences with conductor language and physicality and its effect on their ensemble technique; strategies for balancing engagements as both an ensemble musician and a soloist; and their perspectives on managing mental and physical health in the relentless modern gig economy.

In writing this document, I endeavor to explore and elaborate upon the technical strategies involved in sustainable ensemble singing by consulting existing research and gathering new research from singers' own experiences; and to integrate that knowledge into a semester-long workshop course that may one day provide an invaluable resource for young singers and burgeoning choral conductors. By focusing heavily on experiential learning through in-class performances and exercises, I aim to develop a student's ability to aptly describe and implement their ensemble technique in a way that previous generations of singers have not been able to formally elucidate. In teaching this course, I seek to create self-aware ensemble musicians—singers who are acutely in tune with how their voice operates in an ensemble and understand how

⁶ Margaret Olson, *The Solo Singer in the Choral Setting: A Handbook for Achieving Vocal Health*, (Lanham, MD: Scarecrow Press, 2010). Margaret Olson's excellent book *The Solo Singer in the Choral Setting*, published in 2010, comes the closest to bridging this gap in relevant textbooks, which is geared toward choral conductors and voice teachers and offers solutions and strategies that address common problems encountered in the choral rehearsal.

to self-check, self-balance, and self-assess. A self-aware singer relies on their own developed musical and pedagogical intuition to produce healthy, beautiful sound and make music at the highest level, without waiting on the choral conductor to issue musical commands for every phrase. In a sense, this elevates the role of the ensemble singer as a collaborator. They will be more in control of their own music-making, and can thus take on a more active role in the choral rehearsal and exist on a more equal footing with the choral conductor, who will no longer have to serve as the sole arbiter of correct pitches, rhythms, and phrasing. Thus, more time will be spent in rehearsals experimenting with and exploring the intricacies of the music at the highest possible level. Such singers will thrive not only in the ensemble rehearsal, but in every other avenue of vocal performance.

Chapter 2: REVIEW OF RELATED MATERIALS

Within the fields of choral music and vocal pedagogy, there exists a wealth of pedagogical resources and texts surrounding the vocal instrument and its development in the rehearsal room or voice studio. Indeed, from the perspective of the solo voice teacher or the choral conductor, one need not search for long to find a relevant text, article, or study pertaining to their pedagogical needs. Prominent vocal scholars such as Richard Miller, Ingo Titze, Barbara Doscher, and Scott McCoy have authored books and articles that cover a myriad of issues pertaining to both voice science and vocal artistry, all of which are invaluable resources to the solo voice instructor and choral conductor alike. On the specific pedagogical topic of ensemble singing, however, the availability of relevant material dwindles and is often relegated to a single textbook chapter or scholarly article. In texts and articles pertaining to choral pedagogy, the intended audience is almost always the choral conductor—who is tasked with correcting the technical faults of the singers—and not the singers themselves. In their publications, vocal pedagogues rarely address the specific demands of ensemble singing in a manner that is not protectively wary of the vocal style (take Barbara Doscher, for instance, who in her iconic pedagogy text *The Functional Unity of the Singing Voice* organizes her thoughts on choral singing within a section entitled “Vocal Abuse and Misuse.”)¹

In his dissertation discussing the demands of choral singing, Matthew Ferrell addresses this gap in scholarly research by conducting surveys with professional singers on their strategies when performing in an ensemble.² I have chosen to address this gap in knowledge in a similar fashion— through phone interviews with twenty-five professional ensemble singers, choral

¹ Barbara Doscher, *The functional unity of the singing voice*, (Lanham, MD: Scarecrow Press, 1995): 237.

² Matthew A. Ferrell, “Perspectives on Solo and Choral Singing: Enhancing Communication Between Choral Conductors and Voice Teachers” (DMA diss., University of Miami, 2010), 26, Open Access Dissertations.

conductors, and voice teachers. Though their first-hand experiences serve as an invaluable part of my research, it is important to discuss the research on ensemble singing that is currently available, illustrate what prevailing attitudes are present within these texts, and consider the current trajectory of research in this under-addressed topic. For this subsequent literature review, I have grouped the following sources into these categories: literature from choral conductors; literature from vocal pedagogues; articles addressing specific vocal concepts; and articles detailing the relationship between choral conductors and voice teachers. Most scholars on these topics are usually either voice teachers or choral conductors; few, if any, authors fall outside of those categories.

In the realm of choral pedagogy, texts surrounding choral technique are intended primarily for the choral conductor to recognize, diagnose, and correct common technical issues that arise in the rehearsal room. Over the past forty years, the manner in which choral technique is addressed has evolved greatly, as evidenced by the shifting manner and detail in which ensemble singing strategies are discussed. One of the earliest sources pertaining to ensemble technique is George Howerton's 1957 book, *Technique and Style in Choral Singing*, which remains a staple text in many a collegiate music library. Howerton, a choral conductor and the former dean of the School of Music at Northwestern University, writes this book as a guide for choral conductors in addressing concepts of vocal technique in the rehearsal room. Covering basic, universal elements of singing, such as posture, breath management, diction, vowel placement, and other topics in choral singing, Howerton's intended audience is most likely the choral conductor looking to familiarize themselves with the vocal instrument so that they may better instruct a group of amateur singers.³ Originally published over 40 years ago, it does not, of course, address contemporary choral demands, and is a less useful resource for the professional ensemble singer or vocal teacher, who may already have an awareness of these basic vocal tenets. In a similar

³ George Howerton, *Technique and Style in Choral Singing* (Boston: Carl Fischer, Inc., 1957), 6.

vein, Ronald Corp's *The Choral Singer's Companion*, published in 1987, offers elementary advice for the amateur singer in a choir and for beginning choral conductors—perhaps, as an example, the church organist thrust into the position of leading the Sunday choir in addition to their duties at the organ. With practical advice at the most basic level, including quick fixes to “improve your singing,” Corp's intended audience is clear—amateur singers would benefit most from this text, while more experienced singers may find this information to be too simplistic in nature. Corp supplements his simple strategies for improving choral technique with a list of common musical terms and repertoire selections for the burgeoning choral conductor, prioritizing sacred repertoire to be performed at a church service.⁴ This may be a helpful resource for less-experienced conductors and amateur church singers, but today's professional choristers would find little useful companionship in Corp's basic strategies. In texts over 20 years old, the role of the professional ensemble singer is nearly non-existent and their higher-level vocal demands are largely left unaddressed. Haasemann's 1991 *Group Vocal Technique* offers no exception, though his compendium of nearly three hundred vocalizes to address and remedy specific vocal deficiencies is especially valuable to a conductor working with less experienced singers.⁵ In a collaborative effort between voice teacher and choral conductor, Shirlee Emmons and Constance Chase suggest strategies for fixing technical issues in the choral rehearsal in their book *Prescriptions for Choral Excellence*—examples being issues of breath management, diction, vowel modification, and more. They also touch upon common misunderstandings between choral directors and voice teachers, and propose a model of collaboration between departments that revolves less around conflict avoidance and more around developing mutual understanding—certainly a step in the right direction. Through unique chapters that delve into solutions to

⁴ Ronald Corp, *The Choral Singer's Companion* (New York: Facts on File Publications, 1987), 82.

⁵ Frauke Haasemann, *Group Vocal Technique* (Chapel Hill, N.C.: Hinshaw Music, 1991), 10.

common leadership problems, Emmons and Chase assert that the development of leadership skills within a musical setting is an integral part of the proper development of a choral musician.⁶

Moving into the 21st century, the dialogue in ensemble singing strategies among choral pedagogues has evolved to accommodate stronger musicians, and while there is still no definitive pedagogical guidebook for ensemble singing addressed to singers, two texts stand out for their relevance and breadth of information. In her 2010 book *The Solo Singer in the Choral Setting*, Margaret Olson eloquently explores the gap between solo and choral singing, and the benefit of delineating the specific differences and demands between the two styles. Olson specifically calls for greater understanding of ensemble technique for the benefit of singers' vocal health and long-term musicianship, arguing that prioritizing only the technique of solo singing can be a short-sighted and unrealistic career move for young singers.⁷ Olson asserts, "With awareness and a better understanding of how to use one's voice in a group setting, the singer is more likely to achieve success and vocal health within both the choral ensemble and onstage as a solo singer."⁸ Another valuable recent resource to ensemble singers and conductors is *The Oxford Handbook of Choral Pedagogy*, published in 2017 by Frank Abrahams and Paul D. Head. Featuring chapters from numerous contributors from the realms of vocal pedagogy, choral conducting, and music education, Abrahams and Head lead by posing the question "What is choral pedagogy?" which leads to fascinating discussion surrounding the needs of today's ensemble singer and choral conductor.⁹ It broaches the subject of who most benefits from choral pedagogy—is it intended for conductors to perform their jobs more adeptly, so that they may in turn benefit the singer, or is there a need to introduce a broader scope to the field?¹⁰ The authors look toward the future in

⁶ Shirlee Emmons and Constance Chase, *Prescriptions for Choral Excellence* (Oxford: Oxford University Press, 2006), 213.

⁷ Olson, *The Solo Singer in the Choral Setting*, xviii.

⁸ *Ibid.*, xi.

⁹ Frank Abrahams and Paul D. Head, *The Oxford Handbook of Choral Pedagogy* (New York: Oxford University Press, 2017), 1.

¹⁰ *Ibid.*, 3.

offering more current models of critical pedagogy, “challenging traditional paradigms” to encourage greater collaboration and constructivist practice between conductor and singer.¹¹

Within the field of vocal pedagogy as it pertains to solo singing, opinions on the subject of ensemble singing vary, but most prominent vocal pedagogues approach the technique of singing in an ensemble with some degree of trepidation, offering strategies to minimize vocal strain and abuse above all else. While there is no textbook resource devoted entirely to ensemble singing from the perspective of a voice scientist, the topic warrants a mention in several of the most prominent singing textbooks, including Barbara Doscher’s *The Functional Unity of the Singing Voice* and Richard Miller’s *Solutions for Singers* and *On the Art of Singing*. Doscher takes a measured perspective—while she acknowledges the value of singing in an ensemble, she is wary of the demands placed upon singers in a choral environment in the absence of sufficient pedagogical understanding. Doscher offers, “Choral singing should be an exciting and rewarding experience for young singers. If voices are treated with care and understanding, musical insight, technical growth, and creative fulfillment are possible. If the technical aspect is neglected, however, the basic prerequisite for a lifetime of singing is missing.”¹² Doscher’s strategies for choral singing are posed around avoiding vocal damage and understanding the most prominent pitfalls of the technique, including singing at “half-voice,” suppressing the singers’ formant, and the inability to listen correctly.¹³

Prolific author and vocal pedagogue Richard Miller also mentions ensemble singing in two of his books, *Solutions for Singers* and *On the Art of Singing*. Both of these texts offer brief collections of essays on topics relevant to vocal pedagogy and performance, including performing strategies, the diagnosis and correction of vocal faults, and more. In *Solutions for Singers*, the more technical guide of the two, Miller addresses the solo singer in the choral setting, offering

¹¹ Ibid., 14.

¹² Doscher, 238.

¹³ Ibid., 239.

advice on how to healthily address the demands of choral singing as well as the tenor's use of falsetto in the choral setting, though his advice is limited to a few pages.¹⁴ In *On the Art of Singing*, Miller extrapolates upon the choral conductor's role as a voice teacher, positing the need for choral conductors to possess a more in-depth understanding of the vocal mechanism.¹⁵ Miller's most detailed writing on the topic can be found in his 1995 article published in *The Choral Journal*, "The Solo Singer in the Choral Ensemble." In this article, Miller surmises that the best strategy for improving choral technique is to prioritize building upon the vocal technique of the less experienced singers through warm-ups building a greater awareness of proper vowel alignment, allowing the more seasoned choristers to phonate more naturally, and to prioritize vocal balance over blend.¹⁶ While the average choir may encompass a wide range of technical proficiency in singing, he leaves out the fully professional ensemble, simply instructing them to continue their best vocal practices. Miller infers, "A complete choral sound can be achieved only when the singers within the ensemble use their voices efficiently, using a vocal production based on good breath management, free laryngeal action, and flexible resonator track adjustment."¹⁷

Voice scientist Ingo Titze contributes perhaps one of the most thorough articles on vocal technique in an ensemble setting, offering his opinions and strategies for better vocal management in his 2008 article "Getting the Most from the Vocal Instrument in a Choral Setting." Though a proponent of using healthy vocal practices congruent to solo singing, Titze recognizes the need for alternative strategies in order to achieve an ideal, balanced choral tone, and dives into nitty-gritty aspects of ensemble singing that other voice scientists merely step around—including balance issues pertaining to formant use, achieving healthy dynamic variation, and the need for self-awareness in the ensemble. He considers the perfunctory choral warm-up,

¹⁴ Richard Miller, *Solutions for Singers* (New York: Oxford University Press, 2004), 238.

¹⁵ Richard Miller, *On the Art of Singing* (New York: Oxford University Press, 1996), 57.

¹⁶ Richard Miller, "The Solo Singer in the Choral Ensemble," *The Choral Journal* 35, no. 8 (March 1995): 32.

¹⁷ *Ibid.*, 32.

arguing that an ideal vocal warm-up “requires a dialogue with one’s body,” and suggesting that the generic choral warm-up does not allow for this necessary introspective practice.¹⁸ On the need for self-awareness in the choral rehearsal, Titze writes:

Choral singers, like solo singers, need to understand their instrument well enough to gauge its condition. Instrumentalists in a band or symphony orchestra know how to condition their reeds, lips, valves, and slides before they begin to play together. The sound of an orchestra warming up is a concert of individuality. I have never heard a symphony orchestra warm up by playing scales and arpeggios together platoon-style. Unity begins when the concert master stands up and requests the A from the lead oboist; then everybody listens to their neighbors and tunes in.¹⁹

With this comment, Titze calls for greater independence on behalf of the choral singer, especially in elite professional ensembles.

Voice scientist Scott McCoy contributes his pedagogical knowledge to the choral world in a three-part series of articles in collaboration with Sharon A. Hansen, Allen Henderson, Donald Simonson, and Brenda Smith, entitled “On the Voice: Choral Directors are from Mars and Voice Teachers are from Venus,” which presents a culmination of research presented by these five lecturers at numerous NATS (National Association for Teachers of Singing) and ACDA (American Choral Director’s Association) academic conferences from 2009-2012. In this series, these contributors share the most common ineffective instructions in the choral rehearsal, which lead to unhealthy, unwise vocal habits among singers. McCoy’s most in-depth contributions can be found in parts one and two of “On the Voice: Choral Directors are from Mars and Voice Teachers are from Venus: ‘Sing from the Diaphragm’ and Other Mistructions,” in which he addresses issues related to breath support, posture and resonance. McCoy proposes better practices for healthier choral rehearsal practices, drawing from a vast knowledge of vocal pedagogy as it relates to solo singers and adapting it to the demands of the modern choral

¹⁸ Ingo Titze, "Getting the Most from the Vocal Instrument in a Choral Setting," *The Choral Journal* 49, no. 5 (November 2008): 36.

¹⁹ *Ibid.*, 36

ensemble. McCoy references issues pertaining to the singer's formant and how it relates to blend, intonation, and vibrato use with the understanding that different vocal styles in history call for modified (but sustainable) vocal techniques.²⁰ McCoy and his collaborators unpack a variety of these topics with great clarity, and their series of articles is immensely useful to choral conductors, voice teachers, and singers alike.

A contentious subject in ensemble work is the process and application of non-vibrato singing. Current trends in research show an increasing desire among voice teachers and choral conductors to demystify the vocal style. Typically, an even vibrato (usually falling between 5 to 7 cycles per second) is considered by voice teachers as a sign of healthy, supported singing, as referenced by Kevin Skelton in his 2007 article in the *Choral Journal*.²¹ Scott McCoy, in his oft-utilized pedagogy book *Your Voice: An Inside View* writes that vibrato is “a normal occurrence in well-produced, free singing” and may function in relation to the body’s “natural tremor rate.”²² For these reasons, many teachers believe the absence of vibrato is a sign of a tense, suppressed larynx, and will coach their students never to sing without vibrato.²³ Current research shows a marked interest in understanding the physicality of non-vibrato singing, and exploring its function in both choral and solo settings. One of the most frequently cited researchers on the subject is John Nix, whose articles on vibrato cover a wide spectrum of pertinent information, including practical methods of addressing non-vibrato singing in the choral rehearsal. In his article “Shaken, Not Stirred: Practical Ideas for Addressing Vibrato and Non-vibrato Singing in the Studio and the Choral Rehearsal” Nix synthesizes existing studies on the physiological nature of non-vibrato singing, explaining the interplay between the cricothyroid and thyroarytenoid muscle

²⁰ Sharon Hansen, Allen Henderson, Scott McCoy, Donald Simonson, and Brenda Smith, "Choral Directors Are from Mars and Voice Teachers Are from Venus: 'Sing from the Diaphragm' and Other Vocal Mistructions: Part 2," *The Choral Journal* 54, no. 11 (2014): 48.

²¹ Kevin D. Skelton, "On the Voice: Vibrato and Voice Timbre in Choral Singing," *The Choral Journal* 44, no. 7 (February 2004): 47.

²² Scott McCoy, *Your Voice: An Inside View*, (Delaware, OH: Inside View Press, 2012): 5.

²³ Doscher, 161.

involved in the act of suppressing the natural damping of frequency swings involved in vibrato.²⁴ He goes on to offer a number of vocalises intended to build upon a singer's range of vibrato usage, a valuable asset to anyone aiming to instruct singers in reducing or modifying their vibrato.²⁵ Nix's own survey on non-vibrato instruction in the vocal studio and choral rehearsal room offers valuable insight on why non-vibrato singing remains such a mystery to singers—as illustrated in his article “New Voices in Research: Vibrato and Non-Vibrato Singing: Who teaches it? How do they teach it? Does it make a difference?” Nix reveals that 62% of respondents (all singers) claim that no one ever gave them explicit instruction in non-vibrato singing, and among those who did receive instruction, only 20% of that group attribute the instruction to their voice teachers.²⁶ Highlighting the rather large gap in instruction from the vocal studio, Nix calls for increased practical instruction on non-vibrato singing methods.

Indeed, the amount and breadth of research on the use of non-vibrato (or straight tone) in the ensemble setting has grown immensely over the course of the 21st century, likely reflecting trends in vocal production in contemporary choral works and renewed interest in historical performance. In her article “Vibrato vs. Nonvibrato: The Solo Singer in the Collegiate Choral Ensemble,” Margaret Olson focuses her research on the college-aged singer. Recognizing the unique stage of vocal development that occurs during these years and the challenges it poses in training flexibility in vibrato, Olson writes, “Pedagogically, nonvibrato singing in choir is a significant issue for voice teachers working with college age solo singers...the immaturity of the laryngeal musculature and the lack of established vibrato of college age singer may overtax voices when choral conductors prefer a more mature sound from singers.”²⁷ While she

²⁴ John Nix, “Shaken, Not Stirred: Practical Ideas for Addressing Vibrato and Non-vibrato Singing in the Studio and the Choral Rehearsal,” *Journal of Singing* 70, no. 4 (March/April 2014): 413.

²⁵ *Ibid.*, 415.

²⁶ John Nix, “New Voices in Research: Vibrato and Non-Vibrato Singing: Who teaches it? How do they teach it? Does it make a difference?” *The Choral Journal* 53, no. 9 (2013): 59.

²⁷ Margaret Olson, “Vibrato vs. Nonvibrato: The Solo Singer in the Collegiate Choral Ensemble,” *Journal of Singing*, Vol. 64 (May/June 2008), 563.

discourages young singers from suppressing their vibrato, she asserts that there may be healthy ways to reduce vibrato in one's voice, and agrees with Ingo Titze's suggestion that singing without vibrato may be a valuable exercise for young singers.²⁸ Gayle Walker's in-depth analysis of vibrato, published in the *Choral Journal*, is also a valuable resource for understanding how to broach the subject of non-vibrato singing in a rehearsal. Walker's article covers a broad spectrum of research on vibrato, including its physiology, use, and application in both the vocal studio and the choral rehearsal. Perhaps most valuable is a series of suggestions she provides the choral conductor with ideal language and strategies for requesting less vibrato, as well as suggestions for alternate instructions that will produce a similar result in the ensemble's sound without specifically naming vibrato.²⁹ In her article "Straight Tone and the Choral Arts: A Simple Solution," author Rebecca Sherburn-Bly suggests physical adjustments that can aid in the production of straight tone, asserting the need for a well-developed system of breath support in the same vein as a bel canto solo technique in order to properly execute a healthy reduction in vibrato.³⁰

Other oft-researched subjects within ensemble singing techniques relate to the concepts of vocal resonance, blend, and balance. In line with current research trends, studies are beginning to further unpack these vocal tenets for the purpose of providing more in-depth instruction and healthy application in the rehearsal room. Whereas Edwin Liemohn suggests in his 1958 article that choosing similar voices to work together in an ensemble from the get-go is the most ideal way to achieve a better balance and blend, current research offers more practical options for today's choral conductors, who will work with a wide variety of voices in many a collegiate and

²⁸ Ibid.

²⁹ Gayle Walker, "Good Vibrations: Vibrato, Science, and the Choral Singer," *The Choral Journal* 47, no. 6 (December 2006): 43.

³⁰ Rebecca Sherburn-Bly, "On the Voice: Straight Tone in the Choral Arts: A Simple Solution," *The Choral Journal* 47, no. 8 (February 2007): 66.

amateur setting.³¹ In her article “Balance or Blend? Two Approaches to Choral Singing,” Perry Smith unpacks the acoustical context behind the terms “balance” and “blend,” suggesting the existence of two varying approaches in achieving a unified choral sound.³² Through spectrographic analysis, Smith infers that the “blend” approach has potential to yield a thin, out-of-tune sound through dampening critical vocal formants, and suggests use of the “balance” approach, keeping vibrancy (and spin) in the tone, producing a fuller, richer sound through embouchure and vocal tract modifications in singing specific vowels.³³ Allen Goodwin’s acoustical study on choral blend yielded similar spectrographic results, though he does not express a preference in approach; ensemble singers, whether they are aware of it or not, tend to suppress vocal formants three through five (the formants commonly known as the singer’s formant cluster), maintaining strength in the fundamental frequency and first partial.³⁴ Larry Wyatt discusses factors relating to choral blend, suggesting that the act of blending is not a strategy in and of itself but a unification of excellence in three areas—that of tone quality, vibrato, and intonation. Through discussion of the aforementioned subjects, Wyatt recommends potential solutions to correcting vocal faults within these areas that may impact unification in an ensemble.³⁵ To improve choral tone and intonation, Laurier Fagnan proposes a *chiaroscuro* model of resonance balancing in line with the *bel canto* vocal tradition. In this model, ideal *chiaro* is accessed through optimal glottal closure, exciting the smaller cavities in the vocal tract and creating a brighter, clearer tone; ideal *scuro* can be found through healthy lengthening and

³¹ Edwin Liemohn, "Intonation and Blend in the a Cappella Choir," *Music Educators Journal* 44, no. 6 (1958): 51.

³² Perry Smith, "Balance or Blend? Two Approaches to Choral Singing," *The Choral Journal* 43, no. 5 (2002): 31.

³³ *Ibid.*, 36.

³⁴ Allen Goodwin, "An Acoustical Study of Individual Voices in Choral Blend," *Journal of Research in Music Education* 28, no 2 (1980): 119.

³⁵ Larry Wyatt, "Factors Related to Choral Blend: Tone Quality, Vibrato, Intonation," *The Choral Journal* 8, no. 2 (1967): 7.

darkening of vowels, relaxing the lower pharynx and amplifying lower overtones.³⁶ Fagnan suggests exercises that aid ensembles in accessing this balance of *chiaroscuro* through experimenting with the extremes of both ends of the color spectrum, eventually settling somewhere in the middle and thereby creating a more stable tone.³⁷ It should be noted that there are an abundance of acoustical studies that exist in relation to the production of a choral tone, and to include them all in this review would be impossible—but for interested parties looking to dive deeper into the world of spectrographic research, one should begin with the acoustical studies led by noted voice scientists Johan Sundberg and Sten Ternström, whose original research and synthesis of existing acoustical studies on ensemble singing are invaluable resources.

Current publications and research presented at academic conferences have shown that more than ever, voice teachers and choral conductors wish to close the informational gap and promote greater collaboration and understanding between departments. In the spirit of teamwork and unity, members of NATS attended a 2010 ACDA conference in Oklahoma City and presented two roundtable discussion panels on the symbiotic relationship between choral conductors and voice teachers; the event was so successful it led to another panel discussion entitled “Solo and Choral Singing: A Symbiotic Relationship” at the Salt Lake City ACDA conference that same year.³⁸ The same collaborative effort can be found in the previously mentioned series of articles entitled “On the Voice: Choral Directors are from Mars and Voice Teachers are from Venus,” authored by several scholars in both the solo and choral realm. In the first part of the series, the authors quantify the top ten complaints heard from one department with regard to the other, offering solutions for compromise and advice from each side of the aisle in the hopes of reaching a common understanding. By finding common ground between

³⁶ Laurier Fagnan, "Research Report: "Chiaroscuro" Resonance Balancing: The "Bel Canto" Answer to Choral Tone and Intonation Problems," *The Choral Journal* 49, no. 5 (2008): 52.

³⁷ *Ibid.*, 55.

³⁸ Donald Simonson, “Happy New Year! Reflections and Projections,” *Journal of Singing* 67, no.3 (January/February 2011): 249.

departments, the authors seek to develop a shared language that reflects a “common goal of providing excellence in instruction and performance.”³⁹ Authors Hilary Apfelstadt, Loretta Robinson and Marc Taylor also seek to build bridges between choral conductors and voice teachers. Their article “Building Bridges among Choral Conductors, Voice Teachers, and Students” calls for the implementation of educational methods that address similarities between both vocal genres and do not confuse a student’s technical knowledge base. They also consider imagery-based directions and elaborate upon the potential problems associated with unclear or overly connotative language.⁴⁰ In their article published in the *Choral Journal*, Miguel Felipe and Maya Hoover heed Scott McCoy’s charge for heightened communication between departments and consider the philosophical and practical conflicts that have led to strife in the past.⁴¹ Most excitingly, they recognize the changing atmosphere of a career in vocal music and its impact on new perspectives on choral singing as a valid, relevant skill: “The more skills with which singers are armed, the more likely they will be able to take advantage of many different types of twenty-first century career opportunities.”⁴²

Other articles specifically call out the operatically-trained singer in the ensemble setting. In his article “Operatically Trained Singers in the Collegiate Choral Rehearsal,” John Weiss discusses the redundancy of the choral warm up, asserting that operatically-trained singers, like professional symphony musicians warming up before hearing the oboe’s A, should warm up themselves according to their unique physiology and technical needs.⁴³ Barring that, he offers two options for more beneficial warm ups, suggesting the use of Stemple’s Vocal Function Exercises

³⁹ Sharon A. Hansen, Allen Henderson, Scott McCoy, Donald Simonson, and Brenda Smith, "On the Voice: Choral Directors Are from Mars and Voice Teachers Are from Venus: The Top Ten Complaints from Both Sides of the Aisle (or 'The Farmer and the Cowman Should Be Friends')," 58.

⁴⁰ Apfelstadt et al., 30.

⁴¹ Miguel Felipe and Maya Hoover, "On the Voice: Striking the Balance: Creating and Nurturing Positive Relationships between Voice Teacher and Choral Conductor," *The Choral Journal* 57, no. 9 (2017): 45.

⁴² *Ibid.*, 48.

⁴³ John Weiss, “Operatically Trained Singers in the Collegiate Choral Rehearsal,” *The Choral Journal* 43, no. 1 (August 2002): 28.

and exercises involving *messa di voce* to increase vocal flexibility for opera singers in the ensemble setting.⁴⁴ In an enlightening interview with Santa Fe Opera's Susanne Sheston, author Oliver Henderson gleans valuable insight on her approach to ensemble singing within an operatic context. Sheston, highly regarded for her work in creating vibrant, expressive tones in an opera chorus, appeals to her ensemble of highly trained soloists by using "tangential language" to achieve specific tone colors without interrupting the singer's existing technique.⁴⁵ By choosing her descriptors carefully and encouraging her singers to "listen" as opposed to "blend," Sheston highlights the importance of choosing ideal rehearsal language to supplement a trained singer's palette of vocal colors rather than interfere with it.⁴⁶

As indicated by these resources, there is an abundant supply of research on the nature of choral singing. Within the past decade, attitudes toward ensemble singing are shifting to reflect the legitimacy of exploring specific elements of ensemble singing and its most ideal implementation. These resources, however, are still mostly intended for the voice teacher and the conductor, rarely addressing the actual beneficiaries of this research—the performers. In the following section of this document, which fuses the existing research above with practical strategies and perspectives from ensemble musicians, the intended audience is singers and practitioners of this art form. This research will help form the framework of an instructional methodology and curriculum for an ensemble singing workshop course, the beginnings of which can be found in Appendixes B through D.

⁴⁴ Ibid., 31.

⁴⁵ Oliver Henderson, "Working with Operatic Soloists in the Ensemble: A Conversation with Susanne Sheston," *The Choral Journal* 55, no. 9 (2015): 48.

⁴⁶ Ibid., 49.

Chapter 3: SYNTHESIS OF RESEARCH

As indicated by the breadth of information covered in the previous literature review, there exists an abundance of research surrounding various methods of singing in a choral setting. Most commonly, articles discuss how to use various rehearsal methods and pedagogical knowledge to improve an ensemble's overall sound in a rehearsal setting, or how voice teachers and choral conductors can find common ground between their artistic disciplines. As mentioned, this is all an excellent starting ground for cultivating healthier, more versatile singers—but the knowledge is addressed for the sake of conductors and voice teachers, who will reword this information into practical strategies for their own students. This original study is intended to glean information from the producers of the art form themselves. These include singers with experience performing in professional ensembles, who can articulate their experience and techniques used in ensemble singing in their own practical language, and who demonstrate a proclivity for vocal chamber music and a heightened self-awareness of their vocal mechanism in an ensemble setting that has undoubtedly contributed to each of their successes. The intent behind interviewing this specific type of performer was not only to gain the most practical insight into their understanding of their ensemble singing strategies, but to learn what aspects of their ensemble technique were born naturally from experience versus what strategies were specifically taught in the voice studio or choral rehearsal.

To gather data, twenty-five interviews ranging from an hour to an hour and a half in length were conducted via phone, Skype, and Facetime. Prior to all interviews, the author sought and received approval from the Institutional Review Board (IRB), and interviewees gave their permission to list their names (included in Appendix A) and use the information and personal anecdotes shared through the interviews as part of the research. All interview participants had substantial experience performing in ensembles. Professional ensembles represented among the interviewees include Seraphic Fire, Roomful of Teeth, The Crossing, Santa Fe Desert Chorale,

Cantus, The Choir of Trinity Wall Street, South Dakota Chorale, Skylark Vocal Ensemble, Kinnara, Conspirare, and True Concord, as well as the military choruses of the United States Navy (The Sea Chanters) and Air Force (The Singing Sergeants). A number of singers interviewed also pursue careers as choral conductors and voice teachers in secondary and higher education settings. Many singers interviewed also maintained careers as soloists, demonstrating their versatility in numerous settings including regional and international oratorio work, early music, new music, and opera (including engagements from American houses such as The Santa Fe Opera, Lyric Opera of Chicago, Opera Theatre of Saint Louis, Virginia Opera, Washington National Opera, Central City Opera, Haymarket Opera, Utah Festival Opera, and St. Petersburg Opera). Many of these singers interviewed demonstrate ideal models of contemporary freelance musicians. Able and adept at performing in numerous spheres, in many ways their careers represent the desired result of this proposed additional curriculum: more flexible singers capable of taking on a wider range of performing gigs.

I asked the singers open-ended questions intended to reveal perspectives on the art of ensemble singing, practical methods gleaned in rehearsals and through one's own self-awareness of their instrument, and opinions on professionalism, developing musicality, the art of collaboration, and the modern gig lifestyle. Out of respect for the interviewees' time and schedules, not all participants were asked every question, and certain topics were covered based on the participant's known expertise. All participants provided details about their background in ensemble singing, and all were asked to relate their solo technique and their ensemble technique, drawing upon the main differences and similarities. They were then asked to break down specific technical elements of singing and relate them to how they use their voice in an ensemble context. To highlight the major aspects of ensemble singing technique, I broke down technical elements of healthy ensemble singing into the following categories, many of which are also major tenets of the solo vocal technique and some of which are unique to larger collaborative settings: posture,

breath, phonation, resonance and registration, vowel modification, vibrato, tuning, balance/blend, and ensemble leadership.

- What are the main differences between how you use your voice in an ensemble and how you use your voice as a soloist?
- What is your background in ensemble singing and how did you learn to sing in an ensemble?
- How much or how little of your technical training in the voice studio contributed to the strategies you employ to sing in an ensemble?
- In your own words, how does your ensemble technique function in relation to:
 - Posture
 - Breath
 - Phonation
 - Resonance/registration
 - Vowel modification
 - Vibrato
 - Tuning
 - Balance/blend
- In conductor-less ensembles, what does ensemble leadership mean to you and how do you approach ensemble leadership in both the rehearsal and performance process?
- How can a conductor's choice of language or gesture impact your technique and approach to singing in both rehearsals and performances?
- What strategies do you employ to manage your stamina and maintain and protect your voice in long rehearsal periods and performances?
- What is your approach to situations in which you function as both a soloist and a member of the ensemble in a given concert or work?
- How do you demonstrate professionalism when collaborating with:
 - Conductors
 - Fellow singers
 - Living composers
 - Amateur/non-paid singers
- How do you feel the modern gig lifestyle affects mental health among performers? How do you manage your mental health in a career revolving around the gig economy?

Results of the interviews yielded mostly congruous responses specific to each voice part, as well as a number of interesting data points surrounding the application of certain techniques considered to be a hallmark of ensemble singing. While some singers disagreed about the specific methods involved in producing a sound, or which kinds of singers should be utilizing them, disagreements are common even among top voice scientists and pedagogues, whose extensive research into the solo instrument can still result in conflicting schools of thought. One major point of interest gleaned from the interviews is the varying levels of awareness and assuredness of their vocal strategies. Some participants felt comfortable describing in detail the physiological shifts and sensations involved in producing a kind of vocalism, while other singers realized they were putting into words pedagogical details they had never previously described. Such singers noted that they simply had not ever had to articulate why a specific vocal strategy worked for them. Some participants could pinpoint exactly which voice teacher, conductor, or colleague introduced them to a particular technique or idea, and others could not pinpoint the origin of their knowledge on a topic, attributing such knowledge to experience over time, mimicry, or their own successful guesswork. Almost all participants had some mixture of techniques passed on via formal training as well as strategies gleaned entirely from experience. These results indicate that among some of the top ensemble singers in the country, their base of expertise is derived not only from a combination of well-timed instruction, but from their own musical intuition, guesswork, natural ability, and experience. None of the singers interviewed had participated in degree programs specifically geared towards ensemble singing, and none had taken a formal course on the topic (as these currently existing programs have been developed too recently to have intersected with their degree timelines.) These adept singers could fill in the gaps of their technical knowledge through their own critical thinking and self-awareness. Through their responses, indicated in subsequent paragraphs, points will be drawn connecting existing research to participant answers, and congruent answers among voice parts will help formulate a base of knowledge for the proposed

workshop course curriculum—knowledge that previously was geared to conductors and voice scientists, and has not existed in a digestible, practical format for singers.

Participant Background in Singing

In asking for participants' musical backgrounds, one can assume that most everyone's experiences are unique; yet, a number of similarities were uncovered that may affect how quickly or easily these participants found success in ensemble singing. For many singers, growing up in a musical home afforded early opportunities to develop their ear training skills. One mezzo-soprano's mother is a choral director.¹ Another soprano's father is an orchestral conductor.² Another soprano was brought up in a musical home that prioritized singing at family gatherings, wherein all would participate in the music-making and harmonizing using family songbooks.³ As indicated by several of the interviewees, their musical beginnings came from participating in children's choirs. One soprano remembers that her experience in children's choir revolved less around performing and more about learning how to use their natural voices, which she feels was helpful in preventing the formation of any unnatural or unhealthy vocal habits.⁴ Among most of the singers interviewed, most began their formal training in a choral setting. While some pursued solo voice lessons or even musical theatre at a young age in addition to choir, others only began taking solo voice lessons while enrolled in college. Several of the participants indicated that choir formed a major part of their undergraduate curriculum, whether through attending schools that placed a major emphasis on their choral activities and traditions, or through their own extensive involvement in multiple choirs.⁵ For other participants, their musical start came not as a vocalist

¹ Singer #16, interview by author, August 24, 2019.

² Singer #11, interview by author, August 19, 2019.

³ Singer #18, interview by author, September 1, 2019.

⁴ Singer #11, interview by author, August 19, 2019.

⁵ Examples of "choral heavy" undergraduate programs indicated by interviewee response: Concordia College in Moorhead, MN, University of North Texas in Denton, TX, Baylor University in Waco, TX, the University of Maryland in College Park, MD, and the University of Iowa in Iowa City, IA.

but as an instrumentalist. Two singers began their musical training as brass players; two more as violinists.

A major takeaway from this question regarding participants' musical backgrounds is that numerous ensemble artists feel their training began not with their voices, but with their ears. Many who were interviewed mentioned that either their instrumental or choral background allowed them to develop excellent aural skills long before they worked on their vocal technique. This early ear training proved advantageous as their heightened listening skills not only aided them in score reading, but in their ability to adjust their vocal colors on their own. Many of these singers (especially those who did not begin voice lessons until college) admitted that their earliest ideas of vocal technique came from mimicry, or listening to what the more experienced singers in the ensemble were doing and adapting it to their own instruments. Mimicry can, of course, pose its own set of disadvantages, as untrained singers who attempt to mimic a sound outside the spectrum of their natural instrument's qualities can fall into improper or even harmful vocal habits, but for the most part, all of these singers turned to formal vocal training before such improper habits were ingrained.

For many singers, they felt that the size and quality of their instrument contributed to their natural proclivity for ensemble singing. Several of those with naturally lighter instruments offered that their voices simply felt at home in an ensemble setting. This response was especially common among high sopranos, who are typically asked to float their voices at high tessituras and at very soft dynamic levels (although some lighter sopranos indicated that despite their smaller voice size, they still do not relish singing *pianissimo* above the staff.) One soprano and voice teacher posited that choral singing is generally better suited for those with lighter instruments, and those with larger, heavier voices do not belong in a choir; yet, this perspective feels limiting and not entirely true, as not all ensemble singers possess light instruments.⁶ One tenor suggested

⁶ Singer #19, interview by author, September 3, 2019.

that perhaps those at the extreme end of the vocal size spectrum, or the one to two percent of singers with truly dramatic voices (such as those destined for the operas of Wagner and Verdi) might be more comfortable letting their voices ring out more robustly in an opera chorus.⁷ As not all ensemble singers possess light voices, a number of interviewees feel equally at home in fuller operatic repertoire as well as choral repertoire, one example being a successful tenor who has been professionally engaged as an ensemble artist as well as an operatic leading tenor in repertoire ranging from Monteverdi to Wagner.⁸ It should be noted that gender and voice part stereotypes may play some part here, especially when considering the British choral tradition, wherein tenors are allowed to vibrate freely and sopranos are asked to mimic the traditional boychoir sound. From interviewing and collaborating with a range of unique voices spanning a wide range of colors and sizes, is the author's belief that while larger voices may have to take additional care not to sacrifice singing "on the voice," any voice can learn to sing healthily in an ensemble, and that the ability to balance with other voices in an ensemble has more to do with aural skills than lack of vocal heft or size.

Two Techniques or One: Navigating Styles

At the start of the interview, each participant was asked about their concept of their vocal technique and how it relates to the strategies they employ when singing in an ensemble setting. In the simplest terms, the question asks: do you consider the techniques you sing in an ensemble as extensions or amalgamations of your standard vocal technique, or do you feel the strategies you use warrant the delineation of your ensemble singing voice as a separate technique in and of itself? While there was not complete congruency among responses, a similar answer was described in different ways. Most agreed that some basic tenets of singing remain entirely

⁷ Singer #22, interview by author, September 19, 2019.

⁸ Singer #13, interview by author, August 20, 2019.

unchanged, and most professional singers make it a priority to use the same basic, foundational technical elements of singing that they would use as a soloist. This pertains to posture, breath, and some rules of modification and registration. With regard to phonatory pressure, vocal coloring (including vibrato) and resonance, many singers offered that they make regular modifications to their solo vocal technique to achieve their ideal sound in an ensemble. For those who felt their instrument was on the smaller side, they admitted that they might have less modifications to make to their technique than someone possessing a larger instrument. Those with instruments on the heavier side, whose careers might encompass fuller operatic repertoire, offered that they are acutely aware of certain modifications to their sound, and that the overall musical goals between opera and ensemble singing are so different that they find themselves using a fairly different set of rules for each genre. On the subject of vibrato, one singer noted that her natural singing voice does not yield a strong vibrato, and that the act of learning to sing with vibrato took more effort in the practice room than the act of removing it entirely.⁹

Responses to this question yielded fairly clear delineations between voice parts—among sopranos, especially among those who were frequently assigned the top soprano line, interviewees responded with language indicating a larger number of modifications to their technique. Some higher tenors indicated a number of regular modifications as well, while mezzo-sopranos, baritones, and basses accounted for less modification, with a few low voices offering that their technique remains largely unchanged throughout the entirety of their voice. This evidence confirms the frequently assumed (but rarely discussed) notion that due to the more exposed nature of higher voices within a choral texture, these singers regularly modify their voices to better unify and balance their sound with others, while the low voices have, in general, an easier time weaving a trained, soloistic voice into an ensemble texture.

⁹ Singer #8, interview by author, August 12, 2019.

Regardless of their concept of how they use their voices, nearly all participants agreed that no matter the style, having some training as a soloist has only heightened their technical awareness and overall flexibility of their instrument. In describing their technique, other singers compared their ensemble voice with other specific genres of classical singing—many felt that an ensemble singer was predisposed to success if they also had experience in performing early music or new music, and one baritone suggested that his concept of his ensemble voice was more similar in nature to the instrument he uses when performing art song.¹⁰ Several singers concurred that a well-developed technique and sense of style in performing the recitatives of Bach, or the art songs of Schubert, might lend itself to a more versatile and intrinsically musical ensemble singer. One need only listen to Dieterich Fischer-Dieskau's *Liederkreis* or Barbara Bonney's *On This Island* to immediately hear a similar lightness and lack of vibrato that one might normally attribute to ensemble singing. One soprano suggests that those who perform regularly as ensemble musicians should be careful not to only sing with an ensemble sound—by investing in a solid solo technique rooted in a foundation of bel canto singing principles, one can keep the voice limber and pliable through scales and warm-ups geared towards building the solo instrument.¹¹ Participants who began singing exclusively in choir noted that finding a voice teacher who built upon their instruments to be able to sing soloistically heightened their stamina, flexibility, and overall kinesthetic awareness of their instrument, thus improving their overall technical ability in an ensemble.

Posture & Breath

On the nature of posture and breath, most singers agreed that both solo singing and ensemble singing calls for the exact same structures and methods used (with only a few small

¹⁰ Singer #14, interview by author, August 23, 2019.

¹¹ Singer #11, interview by author, August 19, 2019.

exceptions in choral music). A common phrase heard among interviews was the word “support,” but it should be noted that “support” is often a difficult concept to define. In their 2005 study on the reliability of the term “support” in singing, Sundberg and Sand uncover that trained ears can detect a “supported” voice, but rarely can they elucidate why.¹² Further exploring the perception of “support” a study by Sonninen and other vocologists paired the perceived presence of support in relation to their rating of voice quality in trained singers who were asked to sing with varying amounts of “support.” Results from the study revealed that listeners were able to agree upon voices that were “supported” vs. “unsupported” based on their perception of the voice quality; a “good quality” voice and a “supported” voice are the same thing, yet listeners cannot agree on exactly how a supported voice is produced.¹³ In his 2016 article on the nature of the term “support,” Christian Herbst considers the respiratory, phonatory, and resonatory aspects of the vocal mechanism and how they might relate to the umbrella definition of “support” that is traditionally taught in both the classroom and the studio. Based on each subsystem’s physiological interactions with one another, Herbst proposes that each subsystem be taught as one wholistic mechanism, thereby contributing to a total, multifaceted definition of support.¹⁴ With this in mind, it is logical to consider that each singer’s definition of breath support might also cover aspects of phonation and resonance as well. When asked about how their breath support style as a soloist compared with that of their ensemble voice, all singers confidently expressed that they retain the same form of breath support between both styles. One soprano even offered that her experience singing in ensembles has undoubtedly bolstered her breath support as a soloist, suggesting that having the support of her colleagues to cover for her has encouraged a

¹² Suzanne Sand and Johan Sundberg, “Reliability of the Term ‘Support’ in Singing,” *Logopedics Phoniatics Vocology* 30, no. 2 (May 2005): 54.

¹³ Sonninen, Aatto, Anne-Maria Laukkanen, Kai Karma, and Pertti Hurme, “Evaluation of Support in Singing,” *Journal of Voice* 19, no. 2 (2005): 223-237.

¹⁴ Christian T. Herbst, “A Review of Singing Voice Subsystem Interactions—Toward an Extended Physiological Model of ‘Support,’” *Journal of Voice* 31, no. 2 (March 2017): 249.e19.

greater sense of freedom, less anxiety about taking risks in long phrases, and a safer setting in which to challenge oneself.¹⁵

As many musicians can relate, the shape and positioning of one's instrument directly correlates with the color and quality of the sound that is produced. This applies not only to horns and woodwind instruments (whose shape is pre-determined with brass and wood and results in each instrument's characteristic sound) but also to vocalists, whose instruments are more flexible. With this in mind, any trained singer will assert that finding the ideal posture and body positioning for singing is often the first step in their training. In the ensemble setting, addressing posture is quite straightforward and is limited to, in general, two positions: standing and seated. Such limited range of positioning draws more similarities to that of the formal concert or oratorio artist than the opera performer, who uses a wider variety of postures in their staging, and are regularly challenged to sing in a number of more compromising positions. This might include singing from the floor, choreographed dance or fight sequences, or even while being suspended in midair. Truthfully, little strategy is needed to discern and discuss proper posture in the ensemble setting as it is largely intuitive to any trained singer. As indicated through interview response, the same principles of posture as a soloist apply to the chorister. Talk of keeping the chest open, a straight line existing from the ear to the shoulder, feet positioned shoulder width apart—these are all shared responses when asked about posture in an ensemble. The only major variant that warrants mention is a greater use of the seated posture, which is the typical position for most of the ensemble rehearsal. In this setting, more care must be taken to keep the chest lifted and the neck relaxed. Scientifically speaking, head and neck movements seem to have a greater impact on overall sound quality. In a study measuring the relationship between the kinematics of a singer's movement and their overall voice quality, the most pertinent indicator of a stable tone quality was

¹⁵ Singer #10, interview by author, August 16, 2019.

the positioning of the head and neck.¹⁶ A head tilted too far down resulted in a poorer overall perceived sound quality; perhaps this is why so many singers promote keeping their head up and out of their choir folders.

The major difference in approach to breath as a soloist versus an ensemble singer pertains to the staggered breath, which, naturally, has no place in a soloist's arsenal of techniques. Nearly all singers interviewed acknowledged the greater amount of freedom in choosing where to breathe in an ensemble, especially in larger groups, and for many of the interviewees, such coverage in breath provided a sense of security that quelled performance nerves. Yet, according to one mezzo-soprano, such security comes with a bonus challenge: the need to remain focused and on the breath while singing particularly long lines. In certain choral works where a section might remain suspended in a blanket of sustained background chords, the challenge lies in knowing where to direct mental energies and breath flow so as not to allow the support and focus to "drop," which in turn can pave the way for tension to creep into one's vocal mechanism.¹⁷ Understanding how to self-assess and self-regulate one's technique in such situations is paramount, especially in large group situations where conductors will not notice an individual coming off their breath support. In smaller ensembles, stagger breathing necessitates discussion among voice parts, who need to know when their colleague is taking a breath so that they do not accidentally create a gap in the sound with their breathing. Such singers must also consider their breath placement with regard to the voice parts that operate in duet with one another. In larger ensembles, good listening skills are all that is required; one must simply listen for when the singers around them take their breaths, and make sure to cover them for the brief moments they

¹⁶ Geoff Luck and Petri Toviainen, "Exploring Relationships Between the Kinematics of a Singer's Body Movement and the Quality of Their Voice," *Journal of Interdisciplinary Music Studies* 2 (2008): 185.

¹⁷ Singer #16, interview by author, August 24, 2019.

drop out. When the singer returns to the sustained phrase, the other singer is free to sneak a breath.

On the subject of sneaking back into a choral texture, there are a few rules that seem largely obvious to any musician and thus are rarely discussed. Namely, they are as follows: one must not rejoin a choral texture on a higher dynamic level than the other singers; one must only return on a vowel, deleting a consonant if necessary to take a breath; and one must never rejoin a choral texture whose dynamic trajectory is already in the process of fading out *al niente*. In this scenario it is preferable to mouth the last vowel as the sound fades out rather than attempt to rejoin at a triple *ppp* dynamic level and risk one's vocal onset being detected. In one-on-a-part choral settings, particularly in the performance of Renaissance motets and madrigals, the concept of taking extra breaths is not purely for the singer's sake but for the sake of style—artfully placed lifts around cadences and following appoggiaturas wherein the following note matches the lower note of the appoggiatura are hallmarks of this genre. One tenor offered his strategy of placing a small catch breath or vocal lift around notes that he finds tricky to place. If his vocal line includes a leap up to the third of a chord, he takes a catch breath to allow a moment for his ears to get a sense of the tonal atmosphere in which he is entering.¹⁸

Another challenge revolves around breathing together without the aid of a conductor. This concept relates more closely to ensemble leadership, which will be covered in a later section, but for many younger, less secure singers, the idea of breathing to start a piece or phrase in a group can be a challenge and a valuable lesson in trusting one's colleagues.

For this proposed curriculum, breath and posture can be addressed in many of the same ways it is covered in the voice studio. Through group breathing exercises designed to engage students in the appoggio style, as well as other techniques to help students better connect with their breathing, a baseline technique for breath support can be established. Breathing techniques

¹⁸ Singer #22, interview by author, September 29, 2019.

specific to the choral style should be identified through repertoire. Renaissance motets and other polyphonic works can serve as great examples for instances in which students need to consider the best place for a breath. In these pieces, students will need to identify important musical phrases before mapping out their breaths, and consider other voice parts as well. Do they need to sing a phrase through to allow their colleague to take a breath without breaking the wall of sound? How would a stylized breath or breath mark affect the overall phrasing and/or success of the cadence, embellishment, or resolution? These are some questions to be answered by students, who will learn to consider breathing as a part of their artistry and not merely as a biological necessity.

Vocal Production & Phonation

Within an ensemble setting, the idea of vocal production and phonation relates largely to the idea of how much vocal fold resistance is used while phonating, or how a singer manages the amount of sound they produce. In a general sense, it revolves around the degree and methods of voice usage one can self-detect while singing. Such a broad category can be broken down into several subcategories, including vocal onset, vocal fold resistance, self-balancing with regard to voice size, management of dynamics, and various methods of articulation. Within this category, participant responses were largely varied in detail, as it is natural for singers to manage their voices in different ways based on their voice type and concept of technique; yet, for the most part, there was a general consensus among the overall goals and basic strategies in managing healthy phonation within an ensemble context. The word “support” here might also mean the presence of efficient phonation, possibly on the level of what Johan Sundberg might call “flow phonation,” or the highest combination of subglottal pressure and airflow, which creates a balanced, resonant sound. A common concept heard among interviewees included the need to “stay on the voice,” which likely implies the need for full glottal closure at all times, resisting a “breathy” phonation style that inevitably leads to tension.

When considering vocal onset, the earliest act of phonation, no one articulates the process better than that of vocal pedagogue Richard Miller, who in his article “The Solo Singer in the Choral Ensemble” writes:

Silent inhalation precedes each brief onset, which begins with a vibrant tone accurately centered on pitch. The conclusion of this phonation coincides with the immediate, quiet renewal of the breath. This ensures that at the cessation of each sound, the vocal folds part and the breath is replenished in a synergistic manner. Then the onset cycle is repeated. Crucial to the maintenance of vocal freedom through the duration of the phonation is the manner in which a singer begins the vocal sound.¹⁹

Indeed, how a singer positions and articulates their sound at the first instance of phonation is of critical importance to their overall vocal health. A well-placed and supported onset with optimal glottal closure can pave the way for healthy voice production throughout the entire instrument, while an unsupported (breathy) or pressed onset can spell trouble for singers not only in a short-term performance, but over the course of their careers. When questioned about their vocal onset, singers largely agreed that their strategies in achieving a healthy vocal onset in an ensemble are at their core similar in nature to their solo technique. Some additional modifications and a heightened sense of carefulness were present with some singers. Most interviewees described their ideal vocal onset in an ensemble as coming from a light touch, allowing for plenty of space for the sound to “bloom” throughout the course of a phrase. One soprano, who spent many years collaborating with choral conductor Robert Shaw, likens her vocal onset to a childlike yet supported sound derived from her head voice—she asserts that this is not only a healthy way to begin a phrase, but it allows for a much easier blend with other singers.²⁰ Another soprano noted that she tries to start the sound lightly but cautions against remaining in that light place by singing too “precious,” as the vocal folds still need to come together fully to establish a healthy, mature

¹⁹ Richard Miller, “The Solo Singer in the Choral Ensemble,” *The Choral Journal* 35, no. 8 (March 1995): 32.

²⁰ Singer #7, interview by author, August 10, 2019.

tone.²¹ Several singers indicated that finding an ideal [u] shaped vowel shape allowed them to start their sound from a more relaxed place. According to one mezzo-soprano, starting from a head voice placement piped through the [u] vowel yields a sound that is more diffuse and easily blendable at onset. She also encourages her students to think of the shape of the letter “V” when beginning a sound—in that the vocal onset represents the smallest point of the shape, and as phonation continues, the sound blooms out into the fuller, wider shape.²² One soprano mentioned that finding a healthy onset was one of the more difficult aspects of her technique to master, but a combination of an [u] vowel and using soft consonants (consonants or phoneme clusters that are either sibilant or voiced in nature, such as [v], [z], etc.) to precede the vowel assisted her in developing a clear and supported, yet diffuse, onset. The [u] vowel might be an especially popular choice because of the levels of resistance it offers in the vocal tract, which promote ease of the falsetto and head voice.

For the ensemble artist, proper vocal onset serves not only healthy phonation but vocal blend and balance—and this is precisely why its ideal application presents a greater challenge than that of the soloist. Particularly in larger choral ensembles, singers must monitor their vocal onset through sensation alone, as they are less likely to detect the qualities of their own onset with other voices present. This is especially true in musical phrases or sections that involve heavy, *forte* singing and *marcato* articulation. In this situation, a singer might unknowingly substitute a healthy onset with a glottal attack that quickly fatigues the vocal folds. In particularly quiet passages, a singer might add excessive breathiness to their sound, phonating “off the voice” and tiring out the vocal mechanism over time. As an ensemble singer, they must develop a keen kinesthetic awareness of how much vocal fold pressure they should utilize to activate their sound, as they cannot rely on aural feedback to inform their technique. One can begin developing this

²¹ Singer #9, interview by author, August 12, 2019.

²² Singer #17, interview by author, August 28, 2019.

self-awareness by incorporating many of the same vocal onset exercises found in the voice studio into their regular warm-up routine and by paying heightened attention to the sensation of the musculature of the throat. Which muscles feel released when the onset is supported and easy? Which ones tighten with a glottal attack? These exercises can incorporate buoyant onsets on repeated notes that flow into descending legato lines, as well as staccato exercises to underscore the importance of proper breath support in aiding an easy onset. The [u] vowel may also be of particular help in finding the simplest space in which to begin one's sound.

Once the sound has been initiated through a properly supported onset (resulting in flow phonation achieved by balancing of airflow, laryngeal positioning, and glottal resistance), the task of managing that sound throughout a phrase begins. Vocal pedagogue Barbara Doscher describes this process in simple and clear terms: "In the act of phonation the primary task of the singer is to achieve the most efficient balance between the air stream and the tension in the muscles of the vibrator."²³ Doubtlessly, to achieve balance and stability with regard to vocal fold resistance, or the degree of tension found within the vocal fold musculature, a series of delicate and precise movements occur within the structures both within and surrounding the larynx. Many of these diminutive and subtle muscular adjustments go unnoticed by the singer through kinesthetic awareness alone—in general, singers become aware of these adjustments based on the resulting sound and the ease of its production, and only when a specific posture yields immediate fatigue or tension can they become aware of its lack of efficacy. For this reason, understanding how to navigate and balance levels of vocal fold pressure, or sub-glottal pressure, is paramount to the ensemble singer, who typically does not have the opportunity to listen to their own sound and draw conclusions on efficient vocal fold pressure based on a free-sounding instrument. Instead, they must rely entirely on "feeling" the sound they produce as it balances with other singers.

²³ Barbara Doscher, *The functional unity of the singing voice*, (Lanham, MD: Scarecrow Press, 1995): 58.

When asked to elaborate on how they perceive and manage vocal fold pressure within an ensemble context, or the “amount” of voice they perceive using, singers responded with generally congruent answers. In short, balancing vocal fold pressure is dependent largely on tessitura, style, and the configuration of the ensemble. While ensemble singing may encompass a wider variety of vocal fold pressures for an extended choral color palette, maintaining a buoyant, clear sound without “coming off the voice” (reverting to a breathy phonation) is paramount. Notably, this is also a major goal in solo singing. One soprano asserts that her self-awareness in managing vocal fold pressure relates largely to tessitura; in low tessituras she may feel more inclined to overly adduct or add excess pressure to her sound, and in higher tessituras, the danger for her lies in singing too lightly. To manipulate her vocal fold pressure without focusing too heavily on muscular changes at the laryngeal level, this singer instead focuses on manipulating the space above her vocal folds. To this soprano, hyper-focusing on the muscles surrounding the larynx is unproductive and can result in tension from overthinking the process.²⁴ One mezzo-soprano felt that the configuration of singers had a large impact on how she manages the amount of voice used, inferring that voicing an ensemble, or the arranging of each singer in the best possible acoustic environment relative to their fellow singers, makes an enormous difference in how she is able to perceive and maintain healthy voice use.²⁵ This statement correlates directly with Sten Ternström’s ideal Self-to-Other Ratio, a term he coined in searching for the preferred spacing and balancing of singers in an ensemble.²⁶ Another soprano offered that she actually feels a greater degree of freedom in her voice use, as the act of singing with others does not always yield the same self-conscious performance nerves that accompany the solo setting. One baritone suggested that he had a wider range of voice usage to choose from in an ensemble setting, as solo singing

²⁴ Singer #11, interview by author, August 19, 2019.

²⁵ Singer #16, interview by author, August 24, 2019.

²⁶ Sten Ternström, “Preferred Self-to-Other Ratios in Choir Singing,” *Journal of the Acoustical Society of America* 105, no. 6 (1995): 681.

aims to create an individual sound of evenness, and choral groups typically play with a wider palette of musical colors.²⁷

Such differences in configuration still underscore the need for savvy, well-supported technique. All singers agreed that that while they may, in general, approach voice usage with a lighter touch, the core of the sound is always present. According to their own experience and observations, too little vocal fold pressure yields an unhealthy, anemic sound, and too much pressure cultivates tension. One singer felt that overly-pressurized sounds are a harbinger of poor intonation, in particular sharp singing. This is especially prevalent while utilizing straight tone.²⁸ To maintain a healthy balance between vocal fold pressure and airflow, one bass-baritone imagines himself phonating on a smaller edge of the vocal folds, maintaining a minimal amount of collision on the folds when possible while increasing breath flow to accommodate a smaller edge on which to vibrate. He also offered that such a strategy also aids him in stripping his voice of discernable vibrato.²⁹ To relate this imagery to a healthy vocal exercise, choral singers may find some benefit in warming up and practicing their individual vocal line on semi-occluded vocal tract exercises or flow phonation exercises, which keep the collision minimal while creating a healthy positive pressure within the vocal tract. In a study measuring the effectiveness of straw phonation on a choir's overall sound, choristers reported greater ease in their vocal production after performing their repertoire through straw phonation.³⁰ One tenor uses the imagery of a free, "floating" larynx to help him manage voice use and produce a sound and vocal tract posture that can be sustained for a long period of time. Such a posture is certainly ideal for the choral singer as lengthy rehearsals can easily wear on the instrument. Among high voices, including sopranos and tenors, head tone dominates their vocal production in order to maintain longevity and vitality. For

²⁷ Singer #5, interview by author, August 9, 2019.

²⁸ Singer #8, interview by author, August 12, 2019.

²⁹ Singer #6, interview by author, August 12, 2019.

³⁰ Jeremy N. Manternach and James F. Daugherty, "Effects of a Straw Phonation Protocol on Acoustic and Perceptual Measured of an SATB Chorus," *Journal of Voice* 33, no. 1 (January 2019): 85.

middle and lower voices, several indicated that vocal fold pressure was best managed through a healthy, bright mixed voice. One bass-baritone felt that coming off the voice on low notes often obscures his pitch center, so he takes special care to stay on the voice when he sits at the bottom of a chord.³¹ Like understanding onset, vocal fold pressure is something that singers largely felt they became aware of through experience—but proper soloistic vocal training helped them understand the pitfalls of singing “off the voice” and led to a greater self-awareness in an ensemble. For a choral singer, taking the time to practice their individual part, working the music into their instrument independent of others, may be the most obvious first step in cultivating self-awareness as it relates to voice usage.

According to interviews, another major factor in determining voice usage and vocal fold pressure is the repertoire and the vocal stylings necessary for ideal performance. As an example, singing in a Renaissance ensemble versus a large oratorio choir dictates how much voice to give based on both numbers and musical style. A contemporary vocal ensemble may share more similarities in voice usage with that of the early music ensemble, where non-vibrato singing and other extended techniques in both phrasing and sound production may be more commonplace. In such ensembles, there are often fewer singers, or fewer singers sharing the same vocal part, so there is a greater sense of freedom in the amount of voice one can use. For this reason, singers run less of a risk in “coming off the voice” to create a soft sound. Yet, in these smaller ensembles, larger-voiced singers may still feel the need to back off; one bass-baritone mentioned that in ensembles with less than eight voices, he is more conscious of singing lightly in order to better balance out the ensemble sound.³² An oratorio choir often faces the unique challenge of collaborating with an orchestra. In such situations with a large orchestra, the sound pendulum swings closer in nature to that of a soloist, prioritizing a fuller sound and fuller resonance

³¹ Singer #3, interview by author, August 1, 2019.

³² Singer #20, interview by author, September 5, 2019.

spaces.³³ The opera chorus naturally uses the largest amount of vocal fold pressure, entirely akin to what a soloist might produce. One bass considered the difference between professional versus amateur ensembles in dictating his voice usage. In professional ensembles, this singer feels more free to use the “full gamut” of his instrument, while in amateur ensembles, he rarely finds himself singing full out, as he fears his voice would stick out in such a setting. Instead, he operates on a smaller dynamic range, rarely venturing past *piano*. He prioritizes keeping his instrument as clear and supported as possible, maintaining vocal leadership within his section while avoiding sticking out or inadvertently encouraging less-trained voices to push their sound to replicate his trained sound.³⁴

In discussing voice usage with these individual singers, the term “self-balancing” comes to the forefront. Singers, conductors, and voice teachers alike referenced the notion that one must remain cognizant of their instrument’s unique properties, including timbre, preferred tessitura, and perceived voice size. As voices of all shapes and sizes participate in choirs, how do singers of differing instrument sizes manage how much volume and pressure to give within the context of other voices? In the absence of hearing obvious aural signals, what are the physical cues that singers can feel when they are giving too much or not enough? As many of the professional ensemble singers interviewed also pursue successful careers as soloists, their intrinsic understanding of their instrument dictates their approach. They are able to self-regulate, or “self-balance” their vocal output based on both aural and physical cues that they inherently understand. One soprano interviewed describes her voice as solidly “medium” in size. In smaller, more early music-centered ensembles, she finds herself singing more lightly, and in larger ensembles she

³³ It is healthier and preferable to ask the orchestra to come down in volume rather than continually ask singers to raise dynamic levels, as vocal fold pressure can likely increase to unsustainable levels in this situation, propagating high-risk singing practices; a lighter bow stroke from a string player is less harmful than asking a singer to bump up the volume.

³⁴ Singer #24, interview by author, September 24, 2019.

feels free to use her full voice at will.³⁵ Another mezzo concurred that her practice of self-balancing with regard to voice size changes depending on the ensemble, but as a singer with a sizeable instrument, she often feels that her voice is healthily “idling” around 70% of the time.³⁶ Another heavier-voiced tenor admitted that he uses less voice in an ensemble, and admits that larger-voiced singers are at a greater risk of under-singing when backing off their instrument, which can lead to a host of intonation issues. To combat under-singing, he strives for full vocal fold adduction at all times. He suggests that in solo practice, one can detect “off-the-voice” singing by listening for air and noise in the sound.³⁷ In ensembles, a singer should listen to how their voice tunes with other voices—insufficient glottal closure will not balance with the voices next to them, as escaping air will muddy the intonation. Physically, they should check for an excess of escaping air, or tension in the strap muscles indicating inefficient use.

Many of the singers who train operatically did admit that they give up a small part of their sound, but whether or not that is based in resonance strategies or actual vocal fold pressure is not entirely clear. On the subject of resonance, to be covered in a subsequent section, singers are more acutely aware of the modifications they make and how they are approached. Singers who indicated that their voices were naturally on the smaller side agreed that they likely spent less time worrying about voice usage; yet, they noted that they have to be more careful on the *fortissimo* side of the dynamic spectrum, citing the need to understand that dynamics are relative to voice size and to resist the urge to replicate the *fortissimo* of a larger voice. Such habits are detrimental and using aural cues to self-balance are more difficult at louder volumes. This can be supported by the Lombard effect, a phenomenon in which singers will increase their volume when they struggle to hear themselves in an ensemble. This is more commonplace among less-experienced singers, who may not have developed a strong enough proprioception to self-

³⁵ Singer #11, interview by author, August 19, 2019.

³⁶ Singer #16, interview by author, August 24, 2019.

³⁷ Singer #13, interview by author, August 20, 2019.

balance.³⁸ To physically detect tension as a result overly adducting one's folds, one voice teacher suggests tuning in to one's strap muscles, part of the extrinsic musculature surrounding the larynx. When overly adducting in an ensemble, this teacher asserts, one will feel their strap muscles tighten, their chin might jut out, and they will feel a sense of tightness in the middle of the throat.³⁹ Another soprano uses her jaw as her figurative “canary in the coal mine,” citing an excessively tight jaw when cognizant of over-singing.⁴⁰ As was universal with all voice types, smaller voices, too, avoid incomplete glottal closure at lower dynamic levels, citing that “air doesn't tune.”⁴¹ They, however, might feel less pressured to under-sing.

When asked to consider what perfectly balanced vocal usage might look or feel like, many singers in Seraphic Fire referenced a suggestion from their conductor, Patrick Dupré Quigley, to “sing with their best Mozart voices.” According to many of his singers, this suggestion helped them use their understanding of the easy, light Mozartian vocal style to lock into efficient glottal closure and a buoyant, free tone without overthinking the process. Indeed, stylistic imagery can be a powerful tool in addressing healthy voice production and management. This suggestion in particular is a direction that might limit itself to the well-trained singer, but as Mozart remains something of a gold standard in early repertoire for the burgeoning young singer, it may also inadvertently encourage trained singers to harness the ease of singing with a tone that feels fresh, simple, and youthful without feeling as though they are “stripping away” their sound.

Sustained phonation requires healthy management of volume and dynamics—in choral repertoire, written dynamic markings span an enormous range of volume levels, from triple *piano* markings to *fortissisimo*. These markings are to be managed in a relative sense, dependent on the kind of ensemble. Managing dynamics is also a constant process, as highly-skilled phrasing

³⁸ Steven E. Tonkinson, “The Lombard Effect in Choral Singing,” *Journal of Voice* 8, no. 1 (1994): 28.

³⁹ Singer #19, interview by author, September 3, 2019.

⁴⁰ Singer #10, interview by author, August 16, 2019.

⁴¹ Singer #12, interview by author, August 20, 2019.

allows little time for musical stasis. At the upper and lower extremities of volume, singers run the greatest risk in sacrificing healthy phonation out of service to the printed dynamic level. When asked about how they protect their voices at extreme dynamic levels, many singers related this notion to their instrument's size. Those with larger voices offered that they rarely sing past forte. As a protective measure, many singers mentioned that they will simply cross off the last letter of a triple-lettered dynamic, as such an extreme dynamic level often unconsciously encourages singers to press on their sound or under-sing. To make up for cancelling that last dynamic letter, singers will turn to two strategies which are often touted by intuitive choral conductors. They will either increase the clarity of the diction as opposed to increasing volume, or they will shift the tone color or placement of a *pianissimo* phrase to create a duskier, more hollow sound. Sopranos in particular had much to share on their strategies for healthily floating *pianissimo* dynamics at high tessituras. As interest in complex contemporary choral music grows, so do demands on the soprano voice, often requiring them to float quietly in high registers with minimal, if any, vibrato. One soprano touting extensive experience with such repertoire references a technique often used by the sopranos of the Grammy award-winning ensemble Roomful of Teeth. In order to quietly phonate in such a difficult tessitura, this singer focuses on using as little air as possible while maximizing support in order to protect her larynx. By eliminating the ideal bel canto singing formants, she can cultivate a quieter sound.⁴² It is not a strategy for everyone, however; some sopranos simply find *pianissimo* singing above the staff to be uncomfortable and unnatural to their instrument, and make their needs known when assigning part splits. If placed in an uncomfortable tessitura at a soft volume, one soprano admits that she will adopt a somewhat more soloistic approach, using subtle spin to prevent strain.⁴³ When singing on the extreme ends of the

⁴² Singer #18, interview by author, September 1, 2019.

⁴³ Singer #10, interview by author, August 16, 2019.

dynamic spectrum, one tenor reminds himself to maintain the same quality and resonance throughout.⁴⁴

When discussing the process of phonation, one cannot ignore the role of articulation. Ideally, singers should not let varying articulatory styles hinder healthy vocal production, but it may be worth mentioning to young, eager singers who will sacrifice their not-yet-solidified techniques in favor of pleasing the conductor's wishes. Two common articulations, *legato* and *marcato*, come with their own set of potential vocal pitfalls in an ensemble. In soloistic singing, the ability to sing legato is a hallmark of well-developed vocal technique, and much of the classical repertoire (especially operatic repertoire) requires an ever-present amount of legato. In an ensemble setting, there is generally less concern over connectedness throughout a single voice, but how such connectedness is approached as a group and how it affects rhythmical accuracy and clarity of diction. Like solo singing, legato in an ensemble can come with two musical consequences if the articulation is taken too far: rhythmical dragging and a general sloppiness in phrasing. For this reason, many conductors ask their singers to take a more instrumental approach to their phrasing, especially when performing the music of Baroque composers such as J.S. Bach. In this manner, total connectivity between notes is substituted for a buoyant, clean sound, often leaving a small degree of space in between dotted rhythms or punctuating phrases with small gaps of air—choral conductor Edward Maclary often refers to this as “cheating the dot” and it allows singers to maintain clarity and togetherness without sacrificing healthy legato.⁴⁵ Legato singing can also be sneakily “faked” by planned stagger breathing as well as keeping consonants brief and connected to pitch when possible. When seeking *marcato* articulation, conductors can encourage their singers to create additional space in between each note without excess glottal attacks (as this is a common mistake young singers will make in the *marcato* style of

⁴⁴ Singer #21, interview by author, September 16, 2019.

⁴⁵ Dr. Edward Maclary, interview by author, June 19, 2020.

articulation). As an instrumental comparison, this strategy emulates how a wind instrument incapable of adding noticeable pressure to their sound (like a clarinet or oboe) might approach the phrasing of a bit of Handel or Bach coloratura to create the effect of *marcato* and effectively delineate phrases. In conductor Robert Shaw's many letters to his ensemble, the Atlanta Symphony Chorus, he details numerous strategies for fostering stylistic articulations that are both musical as well as conducive to healthy singing. Such writings might make excellent source material for curriculum content as well as assigned readings for young ensemble singers.⁴⁶

There is much to cover on the topic of phonation and voice usage in an ensemble. From learning healthy onset of a choral sound, to managing voice use in differing styles of ensemble repertoire, to self-management of voice use in alternating dynamics and articulations, students should always reference healthy habits that stem from their established technique in the voice studio. Yet, there are a number of ways an ensemble singing course can build upon their established techniques for voice use. The first might be a discussion and in-class activity on how singers can tailor their individual warm-ups in preparation for ensemble singing. This might include some of the onset exercises and semi-occluded vocal tract exercises previously mentioned, as well as emphasis on the *messa di voce*, wherein students can get acquainted with the most comfortable upper and lower ends of their volume levels. By experimenting with contrasting excerpts of ensemble repertoire in class, students can consider and discuss how a Palestrina motet might feel different on their voice than an oratorio excerpt by Mendelssohn. They can also consider how their solo repertoire relates to their ensemble voice; having students bring in an excerpt of a Mozart aria and applying those same vocal principles to a choral work might offer them an interesting perspective on how voice usage can be balanced. Students should also learn and discuss the benchmarks of tension in the vocal folds. Knowing what muscles and

⁴⁶ One can access numerous copies of Robert Shaw's letters through the following website: <http://robertshaw.website>, or through editor Robert Blocker's *The Robert Shaw Reader*, a collection of the conductor's letters and notes.

other areas of the body tense up when singing improperly can yield dividends in protecting the voice in a rehearsal, where they must serve as their own advocate for their vocal health using sensation alone.

Resonance

To cultivate beautiful singing, voice teachers focus on nurturing a full, ringing, and even tone through boosting resonance and balancing out transitions between vocal registers. Some voice teachers will group both of these technical elements into an umbrella term that encompasses this subtle process of laryngeal and vocal tract posturing that yields differing tone qualities, referred to as *placement*. Like the solo performer, resonance is responsible for much of the resulting overall tone of an ensemble. When discussing their self-perceptions of their ensemble voice, most singers agreed that the largest difference between their solo voice and their choral voice can be found in their methods of producing a resonant sound. Interviewees were asked to describe their strategies for voice placement in an ensemble both in general and as it relates to a number of other musical factors, including range and tone color. The concept of vocal formant usage was also brought up in interviews, which yielded a somewhat mixed response in terms of overall awareness, but congruent responses among singers with a similar degree of knowledge about formants. Responses were grouped by voice part and showed a high degree of congruence between each voice part, and also between high and low voices.

When discussing voice placement with sopranos, many offered that of all the elements of their singing, this subject in particular involves the most amount of modifications to their standard solo voice technique. In this setting, the focus shifts from more soloistic goals of creating a column of pinging sound to a sound that is more diffuse. When asked where this diffuse sound originates, one soprano shared that she feels this sound closer to the center of her head or around the hard palate as opposed to the spaces at and beyond her soft palate and in the

mask area of the face, areas through which she would normally pipe her solo sound.⁴⁷ Another soprano imagines creating a lifted space using her eyebrows to physically delineate the action of lifting the vocal tract; this, however, remains a balancing act as an overly tall or hooty sound will generally tire her out more quickly. To combat this potential hazard, she imagines beginning her sound from a small space in the lifted area, then reminding herself to continually feed the sound in a forward-moving direction.⁴⁸ Another soprano echoes the small space concept, describing her vocal tract as feeling largely closed, almost as if she is piping her naturally fuller sound into a smaller pocket.⁴⁹ With the understanding that sending her sound to the back of her vocal tract does little for her, and to preserve the integrity of her solo voice as much as possible, one soprano maintains a solid, forward placement, and considers the best path for her resonance depending on the direction in which her sound is going. To her, this process is heavily related to which vowel shapes she selects in order to balance with the voices of the colleagues around her.⁵⁰ One soprano and longtime voice teacher of ensemble singers also agreed that placement is ever-shifting in the choral ensemble over the course of different registers, much like that of a soloist—by playing around with the space in the vocal tract using the pharynx, hard and soft palate, tongue, and jaw, one can experiment to create a sound that feels both supported yet diffuse, healthy but pared down in overtones.⁵¹ When discussing resonance with a soprano with experience singing in a variety of non-traditional spaces, location was undoubtedly a factor. Particularly live spaces, such as a cathedral or concert hall, can serve as an ensemble's source of resonance in and of itself, and in such settings as these, this soprano reminds herself to simplify her resonance. In acoustically

⁴⁷ Singer #15, interview by author, August 23, 2019.

⁴⁸ Singer #9, interview by author, August 12, 2019.

⁴⁹ Singer #10, interview by author, August 16, 2019.

⁵⁰ Singer #11, interview by author, August 19, 2019.

⁵¹ Singer #19, interview by author, September 3, 2019.

dead spaces, or “Bring Your Own Resonance (BYOR)” spaces she might allow more room in her vocal tract for a fuller, more ringing, sound.⁵²

Among tenors, the idea of singing through a more closed space remained fairly consistent. As both the soprano and tenor voice parts are typically more exposed and operate on the higher extremities of the vocal instrument, one might assume that on a professional level, both voice types might veer further away from the natural, ringing tone found in their solo voices, instead operating on smaller, more compact concepts of vocal resonance—and to some degree, their responses aligned with that assumption. While one tenor typically uses a baseline amount of resonance throughout his instrument, he did feel that in general, he approaches his resonance from a space that is more closed-off.⁵³ This could indicate a smaller space, or perhaps a lower ceiling on the sound, purposefully limiting overtones. From middle C (C4) and below, another tenor suggested that his resonance remains consistent. He typically uses a “headier and more mask-y” sound in an ensemble, whereas in his solo ventures he senses more chest resonance. This heady space is not to be confused with falsetto—he considers the upper portions of his voice an extended register comprised largely of head tone.⁵⁴ For one early music-inclined tenor, he finds that the resonance space and placement shifts little in an ensemble versus in his solo singing (although, admittedly, as a smaller-voiced tenor, he feels he has more wiggle room to use more resonance than heavier voices). He takes advantage of facial resonance found within the mask area, where he feels he has the most flexibility in focusing and manipulating his resonance.⁵⁵

Among the lower voice parts—the altos, baritones, and basses—one of the major talking points was the concept of using color to define resonance, and how as voices either on the foundation or wedged in the interior of the sound, certain vocal colors tune more clearly. For

⁵² Singer #18, interview by author, September 1, 2019.

⁵³ Singer #2, interview by author, June 16, 2019.

⁵⁴ Singer #13, interview by author, August 20, 2019.

⁵⁵ Singer #12, interview by author, August 20, 2019.

sopranos and tenors, the main element of concern involving resonance is in avoiding sticking out in a choral texture, especially when singing as an exposed auxiliary voice (such as an extra high note intended only for one or two sopranos); for altos and basses, it lies in creating optimal spaces for the benefit of intonation so that they may provide a firm foundation of tone to which those in higher registers may tune. In conversation, one mezzo-soprano pointed out resonance style of the Lutheran choral tradition—dark, tall, and dampened; she indicated that while the resulting sound may be pleasing, such a posture never felt especially comfortable, and could often result in obscuring the text (thus in a larger sense, obscuring the overall meaning of the piece). While she will willingly alter her standard choral resonance depending on the ensemble, she generally finds herself using a fair amount of resonance, choosing to pipe it through either a neutral or more forward position, avoiding overly darkening her sound as the Lutheran choral tradition might dictate.⁵⁶ In the bass section, singers feel an added responsibility in bringing a balanced clarity to their section, as their notes often make up the foundation of an ensemble's tuning. Two ensemble basses (but classified as baritones and bass-baritones in a solo context) stressed the need for an especially bright, forward timbre in allowing their voices to tune clearly. One referenced the use of a forward mask resonance throughout his voice, increasing the brightness as his voice descends.⁵⁷ The other took note of the resonance strategies governing his latest professional ensemble engagements. He finds an increasingly larger number of ensembles veering away from the dark Lutheran tradition and moving towards a bright sound governed by closed vowels. As a result, he feels that his overall placement has migrated to a position that verges on nasality.⁵⁸ Although the trend among lower voices veered towards a more middling or forward position, it is not the end-all-be-all standard—one mezzo-soprano shared that her technique involves capitalizing on the tall space behind her molars, choosing to send the sound up rather

⁵⁶ Singer #16, interview by author, August 24, 2019.

⁵⁷ Singer #5, interview by author, August 9, 2019.

⁵⁸ Singer #3, interview by author, August 1, 2019.

than out.⁵⁹ One bass-baritone offered that he likely uses less forward space in an ensemble setting, creating a somewhat hazier sound in a small but efficient resonating space as he aims to utilize less focus, cover, and overall ping in the sound. He did share, however, that he found his solo instrument to be especially forward and present; his self-awareness of his own voice's qualities might dictate a slight change in strategy than that of his other colleagues.⁶⁰ Each strategy can yield a sound that is clear and facilitates excellent intonation—it largely depends on the singer's personal understanding of what works best for them based on their voice's unique qualities and predispositions.

As indicated by singer response, placement, resonance, and range are closely interconnected, with tessitura informing many singers' approach to their ensemble resonance strategy. In general, the higher or lower the tessitura, the more of a challenge is presented in reaching a healthy resonance space that services both intonation and blend within sections. It appears that in all voices, vocal tract positioning shifts towards either a more spacious positioning or a more narrow shape, depending on the individual's personal understanding of the best methods for their own instrument. This represents another instance, like breath and posture, wherein one's technique in the voice studio should inform and service their ensemble voice. Among sopranos and tenors, most responses related to tessitura covered ascending in pitch; few expressed any special techniques for moving into lower registers. Registration for sopranos and tenors in ensembles is largely dominated by the presence of head tone in the sound. One soprano shared that she viewed her voice as being fairly nasal in color, so to circumvent sticking out in a choral texture as she moves upward, she prioritizes creating space and height in the sound.⁶¹ Another soprano creates space in the sound as she ascends in pitch, but focuses on a location in the vocal tract that can only expand or heighten through imagery. This soprano imagines raising

⁵⁹ Singer #17, interview by author, August 28, 2019.

⁶⁰ Singer #24, interview by author, September 24, 2019.

⁶¹ Singer #8, interview by author, August 12, 2019.

the dome of the immovable hard palate as opposed to the flexible soft palate. For her, this creates a balanced sound that avoids thrusting the sound too far forward or trapping the sound too far back, resulting in either a nasal or a “hooty” sound, respectively.⁶² This hard palate method is touted by another soprano, who in her teaching does not advocate for the soft palate’s lift but for the metaphysical raising and firming of the hard palate; she also offered that this strategy facilitates non-vibrato singing as well.⁶³ One soprano shared that she sometimes will occlude her space at the top of her head voice register in specific settings, but the higher a pitch, the more taxing this is on her instrument.⁶⁴ Considered an auxiliary register of the voice, the flageolet or whistle register is rarely included in the ensemble soprano’s arsenal of techniques, as the upper limit in range choral music would almost never necessitate such a strategy—the rare exception might be for a single note sung by a high soprano, added to the texture almost as an overtone (Poulenc’s staggeringly ambitious *Figure Humaine* is one such example, wherein one soprano finishes out the work with an E6 a full octave above the next-highest note in the chord.) For tenors, similar patterns emerged in responses, although more tenors in this selection of interviewed singers advocated for smaller spaces at the top to allow for optimal use of head voice. For one tenor, the idea of “threading the needle” as he moves upward in pitch helps him maintain narrower resonance spaces.⁶⁵ Unlike the soprano whistle register, tenors might be more keen to use their falsetto, their version of their uppermost register, on occasion.⁶⁶

Among lower voices, especially basses, singers expressed greater concern over how they position their instruments for optimal phonation at the lower end of their voices. Perhaps due to their middling tessituras, few mezzo-sopranos spoke at length about their need to modify space.

⁶² Singer #11, interview by author, August 19, 2019.

⁶³ Singer #19, interview by author, September 3, 2019.

⁶⁴ Singer #15, interview by author, August 23, 2019.

⁶⁵ Singer #12, interview by author, August 20, 2019.

⁶⁶ From a pedagogical standpoint, falsetto differs greatly from whistle register and is certainly much easier for a tenor to access than a soprano in their flageolet.

One mezzo admitted that range is rarely a factor in determining how she modifies her sound outside of how she normally uses her voice in a solo setting, and that at higher register, she barely alters her vocal tract posture.⁶⁷ Another offered that on this topic, her strategies in solo singing almost line up identically— as she moves upward in pitch, she will likely create more space.⁶⁸ For basses, who often bear the responsibility of holding the foundational note in a chord (both in range and tonal importance), extra care is taken to ensure that their sounding note is clean, clear, and easily accessible to other voices, who might rely on the basses to help center their own pitch. Based on responses given, adding brightness and clarity to the sound seemed to be the overwhelming solution. One bass indicated that his normally bright voice might make him an especially valuable singer at the lowest pitches, where his sound can provide a clear, cutting foundation. At times, he may even elect to horizontally spread the sound at the lowest pitches in his register to create an even brighter tone, as muddled, dark sounds have a harder time tuning.⁶⁹ Another baritone concurred, adding that when he is assigned to sing the lower bass part, he will take care to sing a little “edgier” to provide a bright, clear foundation. Basses in particular (most especially baritones relegated to the low bass section) might find themselves making use of their strohbass or vocal fry register in some settings, most notably in some of the deep, booming low masterworks of the Russian composers (Rachmaninoff’s *All Night Vigil* comes to mind) in order to allow their low notes to project past a low murmur. One bass sees using vocal fry as an inevitability in such repertoire, viewing it as simply another register in which to utilize. He also asserted, jokingly, that any bass who claims not to use at least some amount of vocal fry past Eb2 or D2 “is lying.” In using vocal fry he suggests that all basses approach the register without attempting to create an abundance of sound, which can result in over-pressurization of the vocal

⁶⁷ Singer #16, interview by author, August 24, 2019.

⁶⁸ Singer #17, interview by author, August 28, 2019.

⁶⁹ Singer #24, interview by author, September 24, 2019.

folds and a “squeezed” vocal posture.⁷⁰ While some vocal fry may assist basses in projecting their low notes or navigating more extreme registral shifts, it is a strategy that requires some degree of care and management, as vocal fry involves neither optimal usage of the vocal folds nor optimal vocal fold closure. Like singing in any one vocal posture for an extended period of time, it will eventually tire out the instrument.

When a conductor or composer seeks a specific vocal color from their ensemble, singers may find themselves modifying their resonance in service to a myriad of options in terms of tone color, whether the aim is to create a spooky/hollow sound, a hazy/muffled atmosphere, a snarky/mocking tone of voice, or any other option that serves the text or meaning of the work. As is with speech, humans are capable of shaping and molding the sound of their own voice in a seemingly infinite number of ways in order to aid in expression. Professional singers should feel comfortable offering an especially wide range of expressive vocal colors, as modifications to color in service to musicality can result in some especially exciting and moving performances. For all singers, this must be accomplished with some degree of self-awareness and care, as straying too far from one’s healthiest vocal tract posture can invite unnecessary tension. Careful management of unnatural resonance spaces and artificial vocal colors is key to maintaining healthy vocalism. For all singers, developing a sense of self-awareness of their own instrument’s natural timbre is the first step. From experience, discovering repertoire that suits them, or feedback from a voice teacher or coach, most singers come to learn where their voice sits on a spectrum from bright to dark. In an ensemble, knowing one’s “baseline” timbre is useful in figuring out how far one can manipulate their tone. One soprano shared that she generally possesses a rounder voice than other sopranos in her fach, so when a conductor asks for a rounder tone, she understands not to take that cue to its fullest extent.⁷¹ Most singers indicated that they

⁷⁰ Singer #3, interview by author, August 1, 2019.

⁷¹ Singer #9, interview by author, August 12, 2019.

are willing to modify their tone color, provided they can avoid unhealthy vocal habits. One singer shared that she is comfortable accessing less natural resonance spaces to achieve a certain color, but such strategies are best reserved for specific moments in the piece and never repeated for too long.⁷² In agreement with the previous statement, a soprano clarified that among her voice part, one should be careful not to create color via adding chest or mixed voice to their vocal production, as she feels ensemble soprano registration is healthiest when it is geared toward head tone at all times.⁷³ For one mezzo, her perspective considers one's own skill. Those who struggle with altering their vocal color likely have technical issues with their voice that ought to be addressed in the voice studio first.⁷⁴

According to several singers, manipulating tone color is largely correlated to modifying their approach to some vowels. In a concept not unlike the eternal chicken vs. egg debate, one wonders: which came first, the color or the vowel shape? Though such a debate rarely yields concrete answers, considering the shape of the vowel in accordance with the requested color modification can facilitate the process of flexibly altering one's timbre. Singers altering the shape vowel by vowel as opposed to assuming a rigid vocal tract placement throughout an entire phrase might have a more flexible approach to color modification, sparing them the fatigue of assuming one overarching vocal color. More details covering vowel modification can be found in a subsequent chapter, but mention of its relevance in how special colors are achieved is especially useful to young singers who may have less experience making significant modifications to the natural timbre of their voice.

For many singers, the subject of vocal formants is often restricted to the confines of the classroom. While formants, or points of resonance within the vocal tract, serve an important purpose in allowing a voice to cut over or through an instrumental ensemble, singers often are not

⁷² Singer #15, interview by author, August 23, 2019.

⁷³ Singer #19, interview by author, September 3, 2019.

⁷⁴ Singer #16, interview by author, August 24, 2019.

aware of how they are utilizing them. As certain ensembles (namely, early music or contemporary a cappella ensembles) usually do not require singers to project their voices over an orchestra, and as the overall goals of such an ensemble might be to create unified sounds, one might assume that ensemble singers unknowingly manipulate their formants in a different way than as a soloist, where a ringing, resonant voice is paramount. Perhaps these ensemble singers close off such formants, creating a more diffuse sound rather than tuning them for optimal resonance. In an acoustical study conducted on individual singers on the subject of vocal blend, researcher Allen Goodwin's results showed that singers in an ensemble tend to suppress formants three through five (known to voice scientists as the singer's formant cluster) while maintaining strength in the fundamental frequency and the first partial.⁷⁵ Several other studies make note of the dampening of the singer's formant cluster in choral singing: Rossing, Sundberg, and Ternström revealed similar results to Goodwin's study in their acoustical comparison of voice use in solo and ensemble singing.⁷⁶ A similar study featuring opera chorus singers yielded different results, however, showing little difference between formant use in solo and ensemble modes.⁷⁷ It is possible that the makeup of the participants heavily affected the outcome, as opera choristers are used to performing with a more robust voice akin to that of a soloist, and might rely on the singer's formant cluster to be able to sing over larger orchestras. Another researcher offered a somewhat negative view of the idea of suppressing key vocal formants; Perry Smith infers that a resonance approach geared towards the idea of "blend" has potential to result in a thin, out-of-tune sound from dampening such integral vocal formants, suggesting instead to keep vibrancy in the tone and consider the idea of "balancing" voices as opposed to making them sound more

⁷⁵ Allen Goodwin, "Acoustic Study of Individual Voices in Choral Blend," *Journal of Research in Singing* 3 (1980): 31.

⁷⁶ Thomas D. Rossing, Johan Sundberg, and Sten Ternström, "Acoustic Comparison of Voice Use in Solo and Choir Singing," *The Journal of the Acoustical Society of America* 79, no. 6 (June 1986): 1980.

⁷⁷ Katherine L.P. Reid, Pamela Davis, Jennifer Oates, Densil Cabrera, Sten Ternström, Michael Black, and Janice Chapman, "The Acoustic Characteristics of Professional Opera Singers Performing in Chorus Versus Solo Mode," *Journal of Voice* 21, no. 1 (January 2007): 43.

indistinguishable.⁷⁸ This is certainly an admirable thought, as singers should be encouraged to stay true to their natural instruments when possible, yet popular contemporary choral works are creating more demand for vocal soundscapes that position the choir in walls of cluster chords or other textures that necessitate an extremely unified sound. As long as singers can build a sense of self-awareness of their resonance spaces and learn to use their ears to self-balance their intonation, choosing to dampen their formants on occasion can be an effective choice in certain choral textures.

So, if dampening one's own formants is a skill that can (and has been) utilized by professional ensemble singers, how does that process work in singers' own language, as singers are often unaware of their own formants? Results from interviews revealed that this selection of singers rarely, if ever, think about formants consciously, but many can effectively elucidate how they might dampen a resonance space using language that sounds quite similar in nature to that of utilizing vocal formants. Some examples of language commonly used includes: raising the hard palate as opposed to the soft palate (choosing not to open or release the back part of their pharynx which may effectively open certain formants); the idea of closing their resonance off at the top of their voice; prioritizing light singing over a *bel canto* style rich in overtones, or maintaining a hooty sound while purposely inhibiting overtones. When asked about formants, several singers offered that they almost never think about formants, but in understanding their properties in soloistic singing, they assumed their resonance dampening strategies likely were indirectly tuning their own formants down of their own accord.

It is interesting to note that the "closed" language used in illustrating resonance strategies may have something to do with the velopharyngeal opening, or the nasal port. In a study by Gill, Sundberg, Lee, and Lã, divided flow masks were used to measure the acoustical effects of singing

⁷⁸ Perry Smith, "Balance or Blend? Two Approaches to Choral Singing," *The Choral Journal* 43, no. 5 (2002): 31.

with varying degrees of openness in the velopharyngeal opening (VPO). A greater peak in the 2-4 kHz region was noted when singers used a narrow VPO, indicating that using a narrow VPO may be advantageous to singers, who make use of the singer's formant cluster to reduce vocal load and yield a more resonant, buzzing sound. How might this matter to choral singers? The "closed" language from interviewees (closing the sound off, singing from the hard palate instead of the soft palate, etc.) might point singers away from an open VPO, as an overly buzzing, resonant tone would stick out in a choral texture. Singers expressed their resonance strategies using words that indicate a dampening of their resonance in order to balance their voices with others, though their choice of words was mostly figurative. Considering that a slight VPO boosts the singer's formant cluster and leads to a more resonant sound, and no VPO prioritizes the fundamental while dampening the singer's formant cluster, it's possible that a choral vocal technique might involve full closure of the VPO. This is likely more important in smaller ensembles, or ensembles performing early or contemporary music. When performing in larger ensemble settings, such as opera choruses or heavier Romantic oratorio works, a narrow VPO may be used, as exemplified from the 2007 acoustical study among opera choristers.⁷⁹

Certain ensembles may necessitate a more unique sound to the ensemble. The works of medieval choral composers, for example, are most stylistic (at least, by current historical performance standards) when sung with a brighter, more forward space, almost veering on a nasality of tone. A growing trend in many of today's contemporary ensembles is a more diverse use of registers and vocal styles. These styles, such as belt singing, overtone singing, and speech have been popularized by ensembles including Roomful of Teeth, whose premieres of works by composer Caroline Shaw encompass a variety of vocal stylings both Western and non-Western. Roomful of Teeth, in particular, has experience in Swiss yodeling, Tuvan throat singing, Korean

⁷⁹ Reid et al., "The Acoustic Characteristics of Professional Opera Singers Performing in Chorus Versus Solo Mode," 34.

hansori, Sardinian music, American shape note singing, Georgian polyphony, and Persian classical singing. In order to avoid cultural appropriation of such styles, training in these methods of vocalism are approached with a high degree of sensitivity, with each vocal style taught by an experienced performer of that particular musical and cultural background. Their goal as an ensemble is to provide a platform for enfranchising these diverse styles of singing, promoting and honoring the teachers of these styles as well as encouraging a more diverse point of view in choral music.⁸⁰ It should be noted, however, that this group has been criticized for neglecting this duty; the ensemble was quick to alter their practices after being accused of appropriating both Inuit and Tuvan throat singing styles without consulting with or financially supporting members of those particular cultures.⁸¹ In a classroom setting, these styles can be discussed but those that are linked to specific cultures should ideally not be taught in practice unless a culturally relevant practitioner of that art form can provide their expertise. Belt, speech, sprechstimme, and some forms of overtone singing can be discussed and approached through in-class group practice.

Specific techniques for resonance are unique for each singer, as individual instruments are shaped as uniquely as the human body. Singers might present slight differences in vocal tract positioning in order to operate optimally, and for that reason, no singular strategy for resonance should be held as the gold standard for the class. Instead, singers should consider their voice's natural timbre and how that affects how they might manipulate their resonance spaces differently than their colleagues. A discussion of vowel shapes and their relation to resonance strategies would also be useful; in fact, resonance, registration, and vowel shapes would likely be grouped together in one unit as they are so closely related. When discussing formant damping, it might be useful to access spectrographic software such as VoceVista so singers can see results indicated by

⁸⁰ Singer #18, interview by author, September 1, 2019.

⁸¹ Jane George, "Acclaimed American Choir Slammed for Use of Inuit Throat Singing," *Arctic Today*, October 23, 2019, <https://www.arctictoday.com/acclaimed-american-choir-slammed-for-use-of-inuit-throat-singing/>.

peaks on a graph. Through VoceVista, they can play with opening up and closing off their formants via the velopharyngeal opening and use the strategies suggested by the interviewees. Repertoire can also be used to highlight how tone color might relate to resonance—particularly gnarly works by Poulenc, whose two-faced style swings between raucous and reverent can help make the clearest possible distinction between bright and dark resonance options.

Vowels & Vowel Shapes

In both the vocal studio and the choral rehearsal room, selection and modification of vowels is integral. In the voice studio, singers and their teachers consider which vowels will yield a more beautiful sound, which vowels should be used in vocalises to allow students to understand the vocal mechanism, how a vowel should modify, and, of course, how vowels must be used to convey clarity of text. Essentially irrelevant to their instrumental brethren, vowels and text are what make singers' instruments unique. In the choir room, conductors manage their singers' vowel choices for a number of similar reasons—to ensure clarity of text, to harness a more beautiful tone, to serve in the choral warm-up, and to make secure more difficult tessituras through gentle modification of the vowel. Many choral conductors and ensemble singers alike would also agree that vowel selection and modification plays a pivotal role in the overall balance and tone clarity of the ensemble. Proper selection, unification, and, if necessary, modification of vowels can create a seamless ensemble sound wherein the overall texture is smooth, resembling one voice. Singers were asked to elaborate upon their strategies for choosing vowels and approaching vowel modification as it relates to both tessitura and special vocal colors. They also discussed the concept of vocal blend and the role played by vowel unification in uniting voice sections.

Among the sopranos interviewed, vowel modification played a massive role in how they approach more difficult tessituras in their range—namely, the high notes. Most sopranos agreed that when moving upwards in pitch, the vowel gradually opens up and becomes less distinct, with

almost all vowels shifting towards a neutral “uh” space. Specific vowel choices may differ depending on the individual qualities of the instrument, but a gradual opening and muddling of the vowel generally occurs above the staff and beyond. This checks out among soloists as well, many of whom use an identical strategy for vowel modification in their solo repertoire; herein is yet another element of vocal technique that necessitates little variation from the voice studio to the choral rehearsal. One soprano indicated that her vowel shapes specifically migrate towards the open [ʊ] vowel, as the open [ɔ] vowel is too distinct a sound in her voice and the former is more easily interpreted as a variety of vowels.⁸² Another soprano concurred, offering that at higher tessituras, everything tended to migrate towards an [ɪ] or [ʌ] vowel, and that focus on diction in such an area was minimal as well.⁸³ Considering the vowel groupings based on tongue and mouth placement, another pointed out that closed vowels will gradually open up to their more open counterparts as one moves up the staff, and that all vowels eventually turn into the [ʌ] vowel at the highest notes. The role of diction shifts at the uppermost registers for sopranos—the higher the pitches, the less involvement from the small articulators that form the consonants.⁸⁴ Sopranos are often advised to replace voiced consonants with their unvoiced counterpart at the top of their voices, allowing for greater ease of sound on a diffuse vowel, while in an ensemble the clarity of vowels and diction are made up for in the lower voice parts. One soprano noted that the first step of choosing the best vowels is though listening to one’s colleagues, interpreting how they choose to modify their vowels in certain registers. In general, however, she chooses a more open vowel at higher registers—the exception for her is in high, floaty passages, wherein she thinks less about having an open vowel and an open space, but fitting a neutral vowel into a small space.⁸⁵ Another soprano chalked up her ability to modify vowels to experience—at this point in her career, and

⁸² Singer #8, interview by author, August 12, 2019.

⁸³ Singer #1, interview by author, June 16, 2019.

⁸⁴ Singer #19, interview by author, September 3, 2019.

⁸⁵ Singer #9, interview by author, August 12, 2019.

among the professional ensembles she sings with, vowel modification is an organic process that she and her colleagues have honed together over time.⁸⁶ Citing ideal rehearsal strategies for addressing vowel modification, one soprano and professional chorister shared that she preferred when conductors spent less time micromanaging the vowel shape at the top and instead leaving it to the best practices of the singers, who know their own voices more intimately—the phrase, “Sopranos, do what you need to do” is music to her ears.⁸⁷

As they sit in the middle of the ensemble texture, mezzo-sopranos unsurprisingly indicated little need for vowel modification for the sake of tessitura. One mezzo-soprano felt that the ranges in which she sings require minimal vowel modification, except in the case of moving through the upper passaggio, in which she consciously narrows the vowel space while keeping the tone round.⁸⁸ Another concurred, offering that even at the top of her range in choral settings, she rarely feels that vowel modification is a critical aspect of her technique.⁸⁹ More feedback from mezzo-sopranos would be ideal in determining the role of vowel modification for tessitura’s sake in such lower voice types. As ensemble altos can span a wide variety of vocal *fachs*, from the coloratura mezzo-soprano to the contralto, answers are likely highly dependent on one’s specific voice classification and location of registral shifts.

Among tenor voices, many cited that a tenor over-modifying their vowels could severely impact overall vocal balance and cause some voices to stick out of the texture. One tenor specifically referenced A4 as the upper limit wherein vocal modification is discouraged for tenors; beyond that, some modification is encouraged to support the tessitura.⁹⁰ Another tenor agreed, sharing that he consistently tries to keep the purest, most genuine vowel in all areas of his voice, with the only exception being the passaggio. Like the mezzo-sopranos interviewed, this

⁸⁶ Singer #11, interview by author, August 19, 2019.

⁸⁷ Singer #15, interview by author, August 23, 2019.

⁸⁸ Singer #17, interview by author, August 28, 2019.

⁸⁹ Singer #16, interview by author, August 24, 2019.

⁹⁰ Singer #2, interview by author, June 16, 2019.

tenor chooses narrower versions of vowels as he moves through this less stable range of his voice.⁹¹ Another tenor shared a specific strategy for approaching vowel modification through the passaggi and at higher tessituras; he describes it as “hood technique.” In this technique, he envisions his instrument as a column as he seeks resonance towards the top of his head. To achieve this, he creates a “hooding” action with the voice, lifting the soft palate while stifling his natural inclination to create more open vowels at the top. He then pipes his sound through narrow yet forward vowels. For him, this action makes the transitions through the passaggio feel more seamless.⁹² Considering common voice pairings, one tenor offered a simple solution made possible through communication. As he feels the two higher voice parts should modify similarly (as well as the two lower voice parts), in collaborative situations he will initiate a discussion with the soprano or sopranos, and they will choose their approach to vowel modification together, ensuring that the overall ensemble voice sounds more unified in approach.⁹³

For basses, modification applies more to dipping into one’s lower register, almost identical to the responses given with regard to resonance. Many basses will modify a vowel towards a brighter color at lower tessituras, contributing to a clearer, stronger vocal foundation. Having self-described his own instrument as “dark” one low bass takes special care to heed this rule, choosing more closed vowels to elucidate a brighter sound, as his darker color is less useful for tuning purposes at low pitches.⁹⁴ Another bass finds that he modifies vowels a fair amount at the bottom of his voice, choosing closed vowels as they not only provide a better foundation, but help his voice resonate best. He offered that he might even go so far as to modify an [a] vowel towards [æ]. To this bass, the [ʌ] vowel is the least effective in terms of both resonance and tuning, so he avoids it whenever possible.⁹⁵ Unlike the voices that find themselves on the Bass 2

⁹¹ Singer #22, interview by author, September 19, 2019.

⁹² Singer #12, interview by author, August 20, 2019.

⁹³ Singer #13, interview by author, August 20, 2019.

⁹⁴ Singer #20, interview by author, September 5, 2019.

⁹⁵ Singer #5, interview by author, August 9, 2019.

line, some baritones interviewed expressed little need for vowel modification. Similar to the mezzos, this could be because their tessituras are typically more middling in nature and require less singing at the extreme ends of their voices.

One might also consider the impact of vocal formants on vowel modification strategies. Stephen Bolster references the fixed formant theory and considers its relationship to choral blend and vowel unification in a 1983 article for the *Choral Journal*.⁹⁶ Noting the specific differences in fixed formant measurements between men and women's vowels, and the often varying methods of achieving clearer vowels at the upper and lower extremities of range, Bolster suggests that the fixed formant theory is most useful in propagating choral blend among the same voice part, and not in terms of the ensemble as a whole, as he asserts that some voice types (namely, sopranos) have to modify their vowels much more frequently than others.⁹⁷ Bolster suggests that to ask a choir to modify their vowels in the same way among all voice parts would be counterproductive to achieving blend; instead, having each voice part agree on how they shape the vowel (dependent on range, dynamics, and vertical positioning in a chord) is best for achieving overall blend, or balance.⁹⁸ Bolton's findings are mostly congruous with the responses given; most sopranos felt a greater responsibility in modifying their vowels as compared with other voice parts, who reported little need for vowel modification (except some basses at the lower end of their range). Additionally, most vocalists agreed that vowel unification and modification is typically addressed among singers of the same voice part, and less frequently across other voice parts.

As with manipulating resonance, singers are at times requested by conductors to specifically manipulate a vowel shape in service to a particular vocal color in order to create a certain musical effect. This is largely dependent on both the conductor's preferences in ensemble

⁹⁶ Stephen Bolster, "The Fixed Formant Theory and Its Implications for Choral Blend," *The Choral Journal* 23, no. 6 (February 1983): 27.

⁹⁷ *Ibid.*, 31.

⁹⁸ *Ibid.*, 32.

tone—whether they prefer the dark, tall Lutheran sound or a brighter, more forward color—as well as the make-up of one’s fellow singers and their natural tone colors.

For many singers, how they honor conductors’ requests largely relates to their own understanding of where their voice fits in on a color spectrum from bright to dark, and through self-awareness of which vowels work best for their voices. Some singers considered different musical eras of ensemble singing and the stylistic effects on the vowel shapes used. Some examples include the tall, dark, reverent sound of a Renaissance motet that uses pure Latin vowels versus a modern contemporary piece that may require a more colloquial sound. When asked about how they navigate a conductor or composer’s wishes for an altered vowel shape, most singers agreed that while they would always make an effort to accommodate a conductor’s request, rarely would they bend over backwards to manufacture an unsustainable vowel shape for their voices. One tenor asserted that the strategy of modifying a vowel for the sake of color is an artistic choice that should start with the singer first; it is the responsibility of a professional singer to come to rehearsals with a basic understanding of the piece and their own musical choices gleaned from individual practice, very much similar to how a soloist might prepare their music before rehearsing with a conductor. If singers come to rehearsal with their own informed musical choices, or a big-picture idea of the phrasing and vocal coloring within their vocal part, conductors might not have to spend as much time micromanaging each vowel and singers can be more free to make the technical choices that best serve them.⁹⁹

In rehearsing an ensemble, many singers and conductors would agree that choosing to unify vowels is a better approach in achieving a balanced sound rather than asking their singers or colleagues to alter their tone color to match the other. This is still an idea rooted in color, however; if a singer has a dark instrument, their vowels are probably going to be dark, the same of which applies to bright voices. Yet, if the shift in color is requested within the lens of a vowel

⁹⁹ Singer #22, interview by author, September 19, 2019.

alteration, it is possible that singers will make more sustainable choices, as shifting the color of a vowel seems a more straightforward ask than asking for an overall altered tone in service to a specific color that may only be described through indirect means. The simple process of unifying vowel choices can even negate the idea of “blend,” as such unified vowels will create a blended section without requiring singers to stifle or improperly manipulate their voices. One baritone and conductor agreed that blend revolves around vowel modification, and chooses to spend more time working towards a unified vowel among voice sections. As a singer, he admits that sometimes one has to make a few sacrifices to what their normal vowel shape might look like as a soloist—this is an inevitability for ensembles that employ a variety of diverse voices.¹⁰⁰ Yet, young singers should be advised never to shift their vowels to something unsustainable, and when rehearsing on less-common vowel shapes, they should take extra care to increase breath flow and regularly check in with themselves to ensure healthy vocalism.

As with resonance and registration, individual singers’ preferences on vowel shapes will not always align, as each voice is unique and will have different strengths and weaknesses in their own vowels. Still, the class can experiment with unification of vowels through in-class exercises where one half of the class listens and one half sings. The half that sings will perform excerpts of repertoire where vowels might be particularly challenging to balance in a section, and they will play around with the modification and unification of the vowels. The group that listens has the opportunity to hear how easily vowels can shift the balance of a chord for better or for worse. A discussion and exercise on vowels to achieve a specific color atmosphere would also be a valuable part of the curriculum, as singers can learn to honor conductor requests for specific colors by using simple vowel modification strategies—this takes the focus off the muscular processes of the larynx which could lead to tension.

¹⁰⁰ Singer #14, interview by author, August 23, 2019

Vibrato

Of all the technical elements that encompass an ensemble singing voice, the concept of vibrato usage is likely the most contentious among voice and choral faculty. Many in the voice community believe that choral singing does not allow for healthy vocalism because of one concept—that of “straight tone.” Their belief is not without some merit—as a healthy vibrato is a result of a relaxed, lowered larynx, many believe that straight tone is the product of a high, tense larynx. Yet, there are many singers who perform early and contemporary music with minimal vibrato and do not experience vocal distress, many of whom shared their opinions surrounding and strategies for optimal singing with less vibrato.

The physiology of vibrato is still somewhat mysterious to voice scientists, but it is believed that the phenomenon of vibrato is the result of the agonist-antagonist relationship between the cricothyroid and thyroarytenoid muscle; oscillating tensions from their contracting and releasing result in a fluctuation of the vocal folds, creating a vibrato.¹⁰¹

To clarify, the name “straight tone” in and of itself is something of a misnomer. Scientifically speaking, it is impossible for a human to produce a tone that has no oscillations. In a spectrographic study measuring vibrato, results showed that a singer performing a standard non-vibrato tone still produces some oscillations—only the metronome could produce a truly “straight” tone.¹⁰² For this reason, singers and expert choral conductors alike have proposed alternate terms for non-vibrato singing. Clear tone and simple tone are two suggestions that paint a clearer picture of what non-vibrato singing actually is—the simplest, clearest form of a tone. According to many practitioners of the vocal style, healthy clear tone singing can be achieved

¹⁰¹ Adam Kirkpatrick, “Teaching Methods for Correcting Problematic Vibratos: Using Sustained Dynamic Exercises to Discover and Foster Healthy Vibrato,” *Journal of Singing* 64, no. 5 (May-June 2008): 551.

¹⁰² Rebecca Sherbun-Bly, “On the Voice: Straight Tone in the Choral Arts: A Simple Solution,” *The Choral Journal* 47, no. 8 (February 2007): 61.

through proper synthesis of breath flow, tongue position, and placement, and can be accessed through a mental process to “hold back” the vibrato.

Among professional ensemble singers, who have spent years developing their ability to modify the perceptible levels of vibrato in their sound, opinions on vibrato are unsurprisingly quite unified. Singers interviewed were asked about their experience cultivating vibrato as part of their solo technique and discussed the methods used to achieve a healthy non-vibrato sound. For some singers, particularly those with self-described lighter instruments, the act of stripping away one’s vibrato was a more natural process than the years of solo training that slowly built up spin in their sound. Multiple singers across all voice types shared that they attribute their early exposure to choir to their skill in altering their audible vibrato—those who began singing in choirs may have even learned to sing without vibrato as part of their principal vocal technique. One baritone shared that as a longtime chorister from a young age, he struggled to sing with any discernable vibrato until his 20s, when he had the assistance of a private voice teacher.¹⁰³ Other soubrette-like sopranos offered that their instrument developed with little natural vibrato in the first place, so choosing to remove it might involve less effort than a voice that has invested in a constantly ringing tone. One soprano referred to the act of eliminating discernable vibrato from the voice as a musical aspect of code switching, or shifting between musical languages and styles.¹⁰⁴

A tenor contributed the idea that vibrato is not an innate ability. In fact, he quotes his own voice teacher in that “no one came out of the womb singing vibrato.” To that end, he offers, singing without discernable vibrato should be considered an act of returning to a more natural vocalism as opposed to an unnatural technique.¹⁰⁵ Other singers considered the qualities of speech, intoning, and meditative humming, citing their naturally clear and minimally oscillating

¹⁰³ Singer #14, interview by author, August 23, 2019.

¹⁰⁴ Singer #18, interview by author, September 1, 2019.

¹⁰⁵ Singer #13, interview by author, August 20, 2019.

sound as an example for why simple tone is already a part of a singer's tool belt of vocal sounds. It would be entirely odd, for instance, to hear someone actively spinning their vibrato on an "ohm" in the yoga studio. With that in mind, and considering the function of the breath in yoga classes, trained singers might consider exploring such practices and using a yogic breathing mechanism to help them access that natural ease in producing a straight-sounding tone.

Although clear tone implies the absence of vibrato, it should be repeated that no tone is without oscillation, and most singers interviewed agreed that a proper use of clear tone is never without some color or element of spin, however imperceptible. One mezzo equated non-vibrato singing as an act that requires a sense of motion and ease.¹⁰⁶ Another tenor asserted that once the singing is properly arranged on the breath, choosing between vibrato and simple tone is only a minor tweak, and that oscillation should not be qualified by its presence (or imagined lack thereof), but of the rate of the vibrato and how much pitch variance is present in its oscillation.¹⁰⁷

Other singers posited that when conductors ask for less vibrato in the sound, they might actually be looking for a specific color or balance to the overall sound, and not require a non-vibrato sound to satisfy their request. A soprano hypothesized that when a conductor requests a non-vibrato element to the sound, they may be just as content for the singers to focus on better intonation, a clearer vowel, and a stronger commitment to gracefully balancing their position in a chord. To many conductors, excess "baggage" in the sound obfuscates the tonal center, and to remedy a fuzzy chord, asking for non-vibrato can immediately address all the other elements that make a chord seem murky.¹⁰⁸ For that reason, young singers can consider these other elements—their intonation, their tone color and vowel choice, their contribution and role in a chord—before committing to strike out discernable vibrato. Another soprano added that when she began to think

¹⁰⁶ Singer #17, interview by author, August 28, 2019.

¹⁰⁷ Singer #22, interview by author, September 19, 2019.

¹⁰⁸ Singer #1, interview by author, June 16, 2019.

of non-vibrato and full vibrato as two color options married to the same voice, the process of switching between the two sounds became easier.¹⁰⁹

In the choral rehearsal room, the act of eliminating discernable vibrato should be a reasonable request in a perfect world, but the difficulty lies in the fact that rarely are choristers and young singers specifically taught how to navigate this technique. For this reason, some conductors steer clear of the language altogether as to not encourage experimenting with unsupervised techniques outside of the voice studio. According to many of the singers interviewed, their process of learning how to minimize their audible vibrato largely stemmed from their own self-discovery, or through being exposed to choral singing years before their solo training began. Some singers do credit voice teachers for including simple tone singing in their instruction—by and large, these are voice teachers whose careers have encompassed a fair amount of ensemble singing, or those who regularly train singers in historically-informed performance stylings. That is not to say all operatically-based voice instructors neglect the topic; many teachers support and encourage its use in special moments within a piece as a color or effect in service to the piece's text or mood, though less frequently do they elucidate the specific process. This is perhaps because the topic of vibrato is still under-researched, and many established voice teachers themselves cannot specifically describe the process of eliminating vibrato—perhaps it is something that always worked naturally for them. Still, when asked about their own procedures for minimizing vibrato healthily, most all of the interviewed singers could describe, at a minimum, the sensations involved in this highly mental process.

Among sopranos, who often bear the brunt of non-vibrato requests due to the more exposed nature of their vocal tessitura, many described a lighter touch in their vocalism while maintaining, and perhaps emphasizing, optimal breath flow. One soprano uses the *messa di voce* as a starting point for exploring the idea from starting one's sound from a lighter place, growing

¹⁰⁹ Singer #11, interview by author, August 19, 2019.

into that while maintaining the same resonance and airflow throughout. Through this process she finds she has greater flexibility in how she manipulates her vibrato.¹¹⁰ Another soprano asserts that thinking of non-vibrato singing as a separate beast on its own is never helpful; she instead chooses to think of the voice she uses when singing Mozart or composers of the bel canto era, such as Bellini, to inform the amount of voice and flexibility required to create less discernable oscillations.¹¹¹ As *messa di voce* are a hallmark of bel canto style, singers should use bel canto principles to inform both the base level of voice needed and the process by which the voice blooms. As bel canto stylings require great agility and flexibility, it is unsurprising that they aid in making the voice more pliable in its oscillation. One soprano pairs the technique of simple tone with that of the breath, envisioning her breath flowing forward while remaining at a very constant and unchangeable speed. In notes above A5, she may modify this technique and open up her sound to mitigate the extra vocal fold pressure found at higher pitches, but anything below that remains highly focused in both support and air speed. To further reduce tension from such a high degree of focus and stability, she thinks of her sound's path taking on circular motions.¹¹²

Other sopranos combined the idea of focused breath flow with the imagined engagement of the hard palate. Although the hard palate is not a moveable structure within the vocal tract, one can envision a hypothetical lifting and firming of the hard palate to create a space where the vocalizing originates. This imagined firming in a structure that is immovable can be useful in displacing tension in more vulnerable areas within and around the vocal tract. One soprano likens the hard palate's firming in non-vibrato singing to that of a bedsheet, stretched out until it is taut. Slack can be added to the bedsheet by way of adding warmth to the sound.¹¹³ Another soprano imagines the hard palate firming up and allowing it to "sit" towards the back of the mouth, where

¹¹⁰ Singer #7, interview by author, August 16, 2019.

¹¹¹ Singer #11, interview by author, August 19, 2019.

¹¹² Singer #15, interview by author, August 23, 2019.

¹¹³ Singer #19, interview by author, September 3, 2019

she feels the sensation of her sound.¹¹⁴ Considering all of these structures within the vocal tract and balancing their positioning with highly focused breath flow as well as relaxed muscles on the neck are what makes the process of reducing one's vibrato seem advanced. Perhaps it is why so many young singers find it difficult once they are trained to sing with a consistent spin. Those sopranos who began with multiple years of choir before learning to sing as a soloist have an advantage in navigating this technique.

Several tenors also contributed detailed road maps of their non-vibrato strategies. According to one tenor, one of the first aspects of the technique to secure is the concept of singing on the breath. To encourage this in his own students, he has them sing in heightened tones or intone text on a middling range in their voice. Once the voice is in line with the breath, reducing vibrato requires only a small shift from there. He will then initiate a highly balanced, focused breath flow while imagining that his sound is just on the edge of vibration. In order to make this strategy more accessible and apparent, he might ask his student to sing a line from a Renaissance motet in a full, ringing bel canto style, encouraging them to feel how their air management is working. He then asks them to sing the line again, while changing only one aspect—the vibrato. His support of using bel canto principles as a baseline (especially taking advantage of the *messa di voce*) matches the strategies of several sopranos. He also suggests having singers practice two varying kinds of *messa di voce*: one for dynamics and one for rate of vibrato. Starting from a quiet simple tone, as the singers increase their volume towards the center of the *messa di voce* they should increase the presence of vibrato as well until it reaches its zenith at a fully spinning tone, then decrease their amount of oscillation as the volume returns to its pianissimo starting point.¹¹⁵ Such an exercise builds flexibility and greater understanding of the vocal instrument's capabilities. Other commonalities between responses from tenors included an

¹¹⁴ Singer #1, interview by author, June 16, 2019.

¹¹⁵ Singer #22, interview by author, September 19, 2019.

emphasis on optimal vocal fold closure in order to avoid the tension surmounting from the escape of too much air, as well as a slight firming of the palate and the back of the tongue, while keeping the rest of the vocal mechanism engaged, yet relaxed. One tenor acknowledged that from the perspective of young singers, simple tone seems rather athletic at first act due to its need for well-maintained airflow and vocal fold pressure, but not overthinking the process is also key.¹¹⁶

Lower voices, including altos and basses, generally felt less pressure or insistence from their conductors to perform with consistent simple tone, yet all were able to describe how they access such a technique. Again, many of those who began their training in the choir ascribed their easy flexibility in shifting between ample and minimal vibrato to their years in ensembles before they developed their solo instrument. Congruent responses highlighted that the removal of excess tension is paramount in reducing vibrato, and that placement, not vocal fold pressure, should lead the sound in order to reduce the young singer's inclination to clutch their larynx. Low-voiced singers agreed that breath management must remain consistent and on the voice while maintaining a somewhat lighter touch than their solo instrument.

More research on the exact physicality of non-vibrato singing needs to be done, but a few noted experts have some ideas. A study by Large and Iwata measured airflow rates among a group of sopranos, and noticed that when each singer performed without vibrato, airflow rates were significantly lower in all three registers of the voice. They posit that acoustical properties of straight tone are “interdependent with aerodynamic events and muscle activities related to phonation.”¹¹⁷ Noted early music voice specialist Sally Sanford asserts that efficient non-vibrato singing is a result of flow phonation at a lower level of airflow and sub-glottal pressure in order to maintain the ratio of balance necessary for flow phonation.¹¹⁸ Considering how often interviewees

¹¹⁶ Singer #12, interview by author, August 20, 2019.

¹¹⁷ John W. Large and Shigenobu Iwata, “The Significance of Air Flow Modulations in Vocal Vibrato,” *Journal of Voice* 8, no. 1 (1994): 28.

¹¹⁸ Sally Sanford, “Solo Singing 1” in *A Performer's Guide to Seventeenth-Century Music*, edited by Stewart Carter (Bloomington: Indiana University Press, 1997): 26.

honed in on focused airflow as a major aspect of non-vibrato singing, it would seem that some modification to airflow is possible to achieve healthy straight tone, but more research on this topic could elucidate this matter.

A few singers across the board brought up an interesting perspective on how they best respond to requests governing vibrato. While all professional singers agreed that there should be no need to shy away from the idea of stating one's preferences on the amount of vibrato outright, some indicated that it is especially helpful for conductors and composers to specify not merely the amount but the color of vibrato. This topic is covered in further detail in a section detailing how a conductor's choice of language impacts singer performance.

To teach healthy non-vibrato singing as an aspect of this ensemble techniques curriculum, I would first begin with a discussion of vibrato in both scientific and musical terms. What is vibrato? How and when is it used? How does vibrato contribute to a beautiful sound, and how can it detract from it? After discussing common misconceptions and ill-regarded terminology for non-vibrato singing, the class would consider instances in which vibrato is encouraged in a choral setting, and when it should be dialed down. Danya Katok's vocal exercises for encouraging straight tone would make excellent in-class vocalizes to practice; her suggestion to "fog up a window" to achieve optimal airflow for straight tone singing is especially useful.¹¹⁹ By playing around with differing repertoire that might necessitate different amounts of vibrato, students can hear and feel the difference vibrato makes as an artistic choice, not merely as a given byproduct of singing. Using the exercises suggested by the interviewees, as well as other simple vocalises in middling tessituras, students can practice using varying amounts of vibrato in short durations. Eventually, students will work up to singing an entire piece with minimal vibrato; this will be selected from repertoire that sits in an easy tessitura so that no

¹¹⁹ Danya Katok, "The Versatile Singer: A Guide to Vibrato and Straight Tone," (DMA diss., City University of New York, 2016), 58.

additional strain is placed on the singers. With its middling tessitura and pure Latin vowels, Gregorian chant makes an excellent vehicle for practicing straight tone. One might also consider the presence of straight tone in art song—Lynette Johnson-Read and Emery Schubert provide an in-depth look at the delay in vibrato onset found in prominent art song performers.¹²⁰ Students can and should relate their vibrato use as an expressive choice in art song or Bach recitative to their use of vibrato in an ensemble.

Tuning

Clear and accurate intonation is a hallmark of well-developed technique in any genre of vocal music, but it is absolutely essential in ensemble singing. While soloists are encouraged to spend more time diverting their energies to optimal breath support and placement to achieve accurate intonation, the approach for ensemble singers is focused more inwardly. Ensemble singers are expected to maintain one ear on their own voice and the other ear on the voices around them, while many soloists run into technical pitfalls when using their own bone conduction to assess their sound in the moment. “Sing out, not to yourself” is a common phrase heard in the voice studio, while choral conductors will often tell their students to “listen louder than you sing.” Among the interviews conducted, all singers stressed the importance of listening in an ensemble, but there are more elements involved than opening up the ears. In a cappella settings, to whom should a singer listen for intonation? How does a work’s tonal atmosphere and text inform tuning for purposes of musical color?

As far as the first question goes, most professional singers provide an easy answer—tune down. All sopranos, altos, and tenors interviewed indicated they prefer to tune to the bass voice in an a cappella work. This is no surprise, as the bass voice provides the lowest foundation of the

¹²⁰ Lynette Johnson-Read and Emery Schubert, “Lieder Singers Delay Vibrato Onset: Some Acoustic Evidence,” Paper presented at Proceedings of the International Symposium on Music Acoustics, Sydney and Katoomba, Australia, August 25-31, 2010.

group's sound and their parts often involve vacillating between the tonic and the dominant position in a chord, driving the harmonic momentum. Choral conductors will frequently tune chords by starting with the bass voice and working their way up as each voice part stacks on top of the other; through this act singers become accustomed to listening to the bass voice first. Other singers noted the importance of certain vocal pairings in intonation—one mezzo-soprano highlighted the importance of securing the soprano and bass voices in order to feel especially confident about filling in the middle of the sound.¹²¹ Sopranos, unsurprisingly, prefer to have a bass voice near them, with one soprano suggesting that having a bass stand behind them in a multi-row arrangement is especially helpful.¹²² Among bass voices, some basses choose to focus on listening to other basses (especially those with perfect pitch), others maintain that they are constantly listening vertically, checking in with soprano voices to affirm their own positions. As mentioned, the bass voice is most frequently responsible for indicating the root of the chord. One bass consciously tracks the instances in which he is not the root of the chord, knowing that those moments require an even sharper listening ear.¹²³ In the rarer instance in which they represent the bottom of a chord in first inversion, one bass turns his ears to the alto section, who might possess that root.¹²⁴

Across the board, professional choristers place great value on their listening skills. To the ensemble musician, the strength of one's listening ear is equal in importance to that of their vocal production. Listening skills are a critical asset to intonation regardless of the size or layout of the ensemble, and while some singers are gifted with a natural ear for pitch (including those who possess absolute pitch), a strong sense of tonal self-awareness within the context of a choral work is certainly a skill that can and should be developed. Building a strong ear for self-tuning requires

¹²¹ Singer #16, interview by author, August 24, 2019.

¹²² Singer #9, interview by author, August 12, 2019.

¹²³ Singer #5, interview by author, August 9, 2019.

¹²⁴ Singer #20, interview by author, September 5, 2019.

a bit of homework from the singer as well as a basic understanding of music theory and voice leading, but is a worthy investment that yields a stronger collaborator. When asked about their self-tuning strategies, one of the most common descriptors of approach among professional singers is the idea of listening vertically, or developing a keen awareness of one's pitch largely as it relates to the other voices in a chord. This idea of vertical listening can be as simple as listening to other voice parts over one's own section, but such a concept is bolstered greatly by a working knowledge of music theory—understanding how to analyze a chord and recognize one's position within it. In their own musical preparation, singers should take note of critical harmonies and determine their position (and thus, their tonal responsibility) within the context of the chord; a chorister who knows they sit on the root of the chord will undoubtedly have a different approach than another chorister on an auxiliary non-chord tone. Singers who intimately understand their function in a chord will also understand which voice to listen for as a leader in intonation, and how to contribute to a more aptly balanced chord. Many educational choir programs in secondary schools and universities lack the bandwidth in their busy concert schedule to address and cultivate this skill, however. Several singers indicated that they learned how to vertically analyze their vocal line through years of experience which led to common understandings, or through other instrumental affiliations. One soprano offered that she learned how to understand her role in a chord through participation in her school's band; others ascribed their knowledge to conductors who prioritized and championed the act of unpacking and balancing chords note-by-note.¹²⁵

Another method of developing self-awareness in tuning is to cultivate a working knowledge of both registration and voice leading. Understanding where tuning pitfalls occur in each vocal register and how certain notes might carry a propensity to be sharp or flat can help singers make their own informed choices in how to shape the note's intonation. Some of this knowledge is certainly developed through experience and awareness of the intricacies of their individual

¹²⁵ Singer #10, interview by author, August 16, 2019.

instrument, but singers can be made aware of potential intonation pitfalls through score study. Noticing the contour of a phrase or cadence and how that might impact their pitch, marking other voice parts that might make tuning more challenging, and considering what some of the most important harmonies might be in a piece are all valuable strategies for building stronger intonation.

Professional ensemble singers and conductors alike understand the intimate relationship between vocal color and intonation. The same relationship exists in the voice studio. Singing with a covered or dark timbre can run the risk of singing flat, and pressing on an overly bright tone will pave the way for a note to push sharp. For many singers, the relationship between tone color and intonation can best be expressed through building on pure vowels, finding a vowel space that does not cater to the extremes of one's tone color, and by understanding which vowels are generally most difficult to tune. To hone pure vowels that tune and balance more easily, one tenor suggested having students pick a vowel and sing on both extreme ends of the vowel color spectrum, from bright to dark, and eventually settle on a vowel shape that falls somewhere in the middle.¹²⁶ Another soprano thinks more carefully about how to tune the third of the chord when a specific tone color is requested, choosing to tune high or low depending on the mood of the piece.¹²⁷

One pertinent, yet rarely discussed factor in a cappella tuning is just intonation. Though it is a critical and often natural aspect of tuning in a cappella settings, many singers admit that they have little awareness of which tuning modality they use at a given time, and some cannot thoroughly articulate the differences between just intonation and equal temperament. A study on tuning preferences among young singers revealed that they largely performed in equal

¹²⁶ Singer #22, interview by author, September 19, 2019.

¹²⁷ Singer #10, interview by author, August 16, 2019.

temperament, while their thirds regularly veered towards just tuning.¹²⁸ In a more experienced ensemble, the experimental SATB quartet preferred just intonation when tuning chords.¹²⁹ While some choral conductors introduce this concept directly to their students, it is more often than not merely hinted upon through specific exercises that encourage the use of just intonation without naming the system. While many adept singers switch between equal temperament and just intonation without even being aware of it, Professional ensemble singers should intimately understand the differences between equal temperament and just intonation, and be conscious of the tuning modality in which they perform at a given time. Among the singers who understand the differences between the two tuning modalities, most shared a preference for singing in just tuning—thereby consciously lowering their thirds and raising their fifths. This system allows for singers to lock into the natural overtones within the chord, and will yield a specific kinesthetic awareness of “riding the wave” of the sound. When collaborating with instrumental ensembles or piano, singers will naturally automatically adopt equal temperament. In training young singers to become more aware of just intonation, there are a number of vocal exercises that encourage this development; namely, group scales beyond the traditional major and minor set, including chromatic, octatonic, and all varieties of modal scales. Many professional singers, choral conductors, and vocal pedagogues alike would agree that such ear training exercises are what makes a choral warm-up valuable, as opposed to perfunctory arpeggios accompanied by piano to quickly warm up the voice. To further examine the differences between just intonation and equal temperament, singers can also look at the methods of barbershop singers, who sing in almost exclusively just intonation in order to achieve that “locked in” state of their harmonies.¹³⁰

¹²⁸ Sara D’Amario, David M. Howard, Helena Daffern, and Nicola Pennill, “A Longitudinal Study of Intonation in an a Cappella Singing Quintet,” *Journal of Voice* 34, no.1 (January 2020): 159.e13.

¹²⁹ David M. Howard, “Equal or Non-Equal Temperament in a Cappella SATB Singing,” *Logopedics Phoniatrics Vocology* 32, no. 2 (2007): 87.

¹³⁰ Gage Averill, “Bell Tones and Ringing Chords: Sense and Sensation in Barbershop Harmony,” *The World of Music* 41, no. 1 (1999): 37.

Understanding and becoming aware of intonation and tuning requires not just active listening while singing. It is greatly bolstered by active listening as an observer. Singers who sit out of rehearsal due to illness often end up learning from the rehearsal anyways—not through notes learned, but through an unbiased lens of listening from the outside in.¹³¹

In the ensemble techniques classroom, students will hone in on their tuning skills by learning a variety of scales, including modal, chromatic, and octatonic scales. Understanding the width of a whole step and the narrowness of a half step will help students better recognize when they fall between the cracks of those intervals. Students will draw from musical samples of chant and even barbershop tunes to encourage the use of just intonation, which will be discussed in detail. Students will also explore the relationship between vowels and intonation, and use score study to point out difficult intervals or chords to tune. The idea of vertical listening can be introduced through singing in mixed formations, or by removing one or two harmonies from a chord and noticing how it changes the sound. In many exercises, students should have the opportunity to sit out and listen to their colleagues to build on their aural skills without the distraction of phonation.

Balance

The term balance applies to the overall evenness of a chord in terms of both intonation and how much voice is given to each individual note in a chord. It is tightly wound with other principles of good choral technique, including resonance, vowel shape, and most critically, intonation. Choral conductor Edward Maclary perhaps states it best: “Balance begets intonation and intonation begets balance—they are inextricably linked.”¹³² For that reason, there is much overlap from the previous chapter in terms of both findings and approach.

¹³¹ Singer #25, interview by author, June 19, 2020.

¹³² Dr. Edward Maclary, interview by author, June 19, 2020.

It should be noted that balance has been historically associated with the idea of blend, especially within the Lutheran choral tradition wherein conductors favor a tightly homogenous sound. While such a sound yields excellent intonation and balance within homophonic settings, the idea falls short in polyphonic textures and in small ensembles, and many singers and conductors alike prefer the term “balance” as “blend” invites a context of negation, or the act of nullifying one’s vocal instrument. For voice teachers, whose job revolves around bringing out the unique qualities of an individual sound, “blend” is a highly unappealing term. In her article, “Balance or Blend? Two Approaches to Choral Singing,” Perry Smith unpacks this distinction between the terms and suggests that promoting balance over blend will result in a freer, more rich sound.¹³³ When asked about their own preferences, professional singers were not altogether discomforted by the idea of vocal blend, but several posited that for younger singers, being inadvertently encouraged to strip away their sound before they have enough self-awareness of their voice is potentially damaging to their vocal technique. This is especially apparent in the practice of voicing a choir from one singular instrument in each section, gradually asking each additional voice to sing into the existing sound instead as opposed to contributing their own voice. Such a practice is not only inefficient when the ensemble is tasked with polyphonic passages, it is psychologically confusing to young singers. Such singers will either feel as though their uniqueness is invalidated or altogether puzzled as some conductors choose not to explain the reasoning behind this exercise.¹³⁴ Voicing can be a useful practice when determining positioning within a section and full ensemble, but its use in creating a “blended” sound is not a productive one. For these reasons, many conductors prefer to prioritize vocal balance, which in itself requires singers to consider vowel modification, resonance, and intonation all within the lens of vertical listening and phrasal awareness.

¹³³ Perry Smith, "Balance or Blend? Two Approaches to Choral Singing," *The Choral Journal* 43, no. 5 (2002): 31.

¹³⁴ Singer #25, interview by author, June 19, 2020.

So, how do singers learn to balance a chord? In many ensembles this responsibility has sat squarely on the shoulders of the conductor, whose outside ear can provide the truest feedback on the balance of a chord, or lack thereof. Yet, singers can build upon a number of skills that will contribute to a heightened sense of listening and score understanding that will allow them to do some of the work themselves. Among interviewed singers, nearly all acknowledged the close connection between intonation and balance, and offered that their strategies in promoting balance within both their own section and the entire ensemble are markedly similar to their approach to tuning. Two of the major shared strategies include the idea of listening louder than one sings, listening in both horizontal and vertical directions (meaning that singers will not only listen to the trajectory of their own section's phrase, but how it interacts in harmony with the other voice parts at the same time), and some elements of score study, or understanding one's positioning in a chord.¹³⁵ Basses, who spend much of their time on roots, should ideally know when they are in another position; this is especially pertinent if the chord is in first inversion, which generally is much more difficult to balance.¹³⁶ One bass joked that it would be faster to scan a score for any instance in which he is in any position other than the root rather than looking at each harmony.¹³⁷ Indeed, whether the singer represents the root, third, fifth, sixth, seventh, or any other non-chord tone invites, in general, a specific responsibility. A chord with too much fifth or third will sound utterly out of place even with perfect intonation; special care must be afforded when giving voice to sixths and sevenths, and a particularly dissonant non-chord tone might be essential to highlight in order to cultivate a particular musical atmosphere. Trained choral conductors usually already have this knowledge in their skill set. Singers, however, are often less aware of the intricacies of these harmonies and will instead rely on the natural strength of their own ear and kinesthetic

¹³⁵ Singer #12, interview by author, August 20, 2019.

¹³⁶ Singer #25, interview by author, June 19, 2020.

¹³⁷ Singer #20, interview by author, September 5, 2019.

sense of chordal balance. They may also lean heavily on the conductor to give specific balance requests in the moment.

One must also consider the effect of spacing and positioning on vocal balance. According to Sten Ternström, the ideal self-to-other ratio among choral artists is around six decibels, meaning that singers prefer to be able to hear themselves just slightly louder than their colleagues in order to best self-assess.¹³⁸ Singers who are spaced a certain distance from one another have an easier time hearing themselves; consequently, singers who are wedged together in large ensembles have a harder time hearing themselves. According to the Lombard effect on choral singing, singers who struggle to hear themselves in an ensemble will gradually sing louder and louder, thereby making balance more difficult and inviting a pressed phonation.¹³⁹ Based on responses from singers, who prefer mixed formations with adequate spacing between singers, it is likely that such mixed formations and spacing allow for each individual singer to hear themselves more clearly, resulting in a more preferable self-to-other ratio and better overall balance. Enveloped in their own section's sound, a singer positioned by section is less likely to be able to hear themselves adequately, making overall ensemble balance less attainable.

Another factor governing the effectiveness of balance is vowel unification; this is particularly apparent within vocal sections. One soprano noted that when positioned next to someone with a completely different vocal color, upon listening closely she found that their inability to balance each other out had less to do with the differences of their individual timbres and more to do with their differing ideas on how to shape vowels. To remedy this, a discussion on how to find common ground and choose vowel shapes that work for them both immediately made a huge difference.¹⁴⁰ This is an excellent example of how in-section collaboration and communication can yield enormous dividends in creating the idea of blend without enforcing one

¹³⁸ Ternström, "Preferred Self-to-Other Ratios in Choral Singing," 3572.

¹³⁹ Tonkinson, 28.

¹⁴⁰ Singer #11, interview by author, August 19, 2019.

leading voice and several subordinate ones. Within sectional rehearsals (which are highly effective learning situations when crafting a unified sound), singers should be encouraged to ask their neighbors and section colleagues which vowel they are choosing, work through different options, and decide on one that unifies the ensemble best. Oftentimes, this can be achieved by having the section sing together on both extremes of the vowel section, then settle on a middling option. Another bass personally found trying to match specific vowels to be too cumbersome of a process, and achieved better results in unifying a section of wildly different voices by tuning into other people's vocal colors and choosing vowels that best complement those colors—in the author's opinion, this can be a more difficult strategy to pull off and requires a strong ear and a voice that is capable and willing to adapt their own timbre more than others. Unsurprisingly, this bass also mentioned that he often finds himself serving the role of a section's "vocal glue."¹⁴¹

Understanding one's role in a group of singers is also an interesting way to approach balance within a section. Over the course of several rehearsals within an ensemble, particularly self-aware singers might find that their specific skills as a singer lend itself to playing a particular role within a section. One might notice that their voice can often help create unity between two wildly different voices, operating a bit like sectional glue; others might feel that the presence of their individual tone naturally takes the lead in the section's overall color. A singer with perfect pitch might often take the lead in more difficult note patterns or when sight-reading, and an especially musical singer might help define the section's phrasing, especially in the case of ensembles with varying levels of experience. Understanding what one's specific talents and unique skills can bring to the table within a section is a lot like what a soloist must consider in order to define what makes them special as an artist. Yet, in an ensemble setting, especially in professional ensembles with rotating rosters, one's role might change regularly! As today's professional choral ensembles are often comprised of varying combinations of the same few

¹⁴¹ Singer #5, interview by author, August 9, 2019.

hundred singers making significant careers through ensemble work, one might operate as a “color anchor” in *Seraphic Fire* but serve as a “glue voice” in *The Crossing*. Conductors often know this and will cherry-pick specific groups of singers to hire depending on the repertoire and their vision for the section’s overall sound. Professional choral singers learn this through experience, but taking time to self-reflect can help young singers understand how they can best use their individual sound to create balance in a section without feeling like they have to negate what makes them special as a musical artist. Such self-reflection yields better collaborative skills, which is the cornerstone of great ensemble singing.

In a classroom setting, students can continue to build on their vertical listening skills through a lens of score study. Students could complete a score marking project wherein they will select a choral piece of their choosing and vertically analyze the score for challenging chords to balance, among other pertinent details. When exploring repertoire in class, students could be tasked with learning challenging excerpts of pieces where balance is tricky. One piece that comes to mind is Purcell’s “Hear My Prayer, O Lord,” which provides a lesson in suspensions and resolutions and tuning inverted chords. Repertoire by Francis Poulenc, such as excerpts from his *Mass in G Major* and *Figure Humaine*, provide ample opportunities to balance out particularly gnarly chords, and works by Herbert Howells are littered with flat nines and a myriad of inversions to explore. Through workshoping this repertoire, students will play around with varying configurations of balance (perhaps reducing the fifth or purposefully adding too much third) and use their ears and kinesthetic awareness of tuning to settle into the best positioning of each chord.

Ensemble Leadership

Choral ensembles are the very essence of teamwork on display. Yet, the best ensembles function at the height of teamwork because each singer also possesses the skills necessary to be a leader, and knows how to balance between taking the lead and acting as a team player in both

rehearsal and performance settings. This is especially pertinent in settings where a conductor is not present. While most choral ensembles have the benefit of a conductor to lead rehearsals and guide the ensemble both musically and rhythmically throughout a performance, many of today's most popular choral ensembles, such as The King's Singers and Voces8, operate in small groups without a conductor. These singers are all highly trained, highly skilled musicians whose many years of experience as professional soloists and ensemble musicians have contributed to their ability to collaborate at a high level without a figure in charge. How, though, can one instill these skills in young singers early on? By isolating and discussing the specific aspects of what makes an ensemble musician an ideal leader and collaborator, young singers can have a head start on becoming better musical partners, which will serve them well beyond the ensemble setting and into all aspects of their musical careers.

Singers in conductor-less ensembles must be willing to adopt a certain sense of unified physicality in their collaboration. This begins with the singer's cue and the preparatory breath. One tenor noted that young singers will fall into the habit of counting off and snapping to begin a piece, which may prove effective in a rhythmical sense but rarely a musical one.¹⁴² Young singers should be encouraged to use their ears to collectively listen to everyone breathe together, as it results in a cleaner and more musical onset. One way conductors and teachers have instilled this idea is by having singers close their eyes and start a chord together, or by turning off the lights in the rehearsal room. Once a clean vocal onset is discovered. As an added bonus, this collective breath is usually accompanied by a slight, subtle nodding of the head, which becomes a highly useful tool in leading new phrases and meters as well as anticipating vocal cutoffs. In smaller ensembles, eye contact is also a necessary tool in effective communication while performing, whether it be signaling a lead voice, passing the lead off to another, checking in with other singers for meter changes and *accelerandi* (which, according to one tenor, are the most difficult

¹⁴² Singer #12, interview by author, August 20, 2019.

to achieve sans conductor), and, of course, planning vocal cutoffs.¹⁴³ Maintaining some degree of freedom of movement in the body can facilitate singer communication during performances; singers who are too stiff will seem uneffusive and closed off to cues from body language. There is a tipping point, however, as singers who move too much can send off too many signals which can confuse other singers on phrasing, musicality and tempo. One example might be to look at how the collegiate a cappella group carefully curates their movements (excluding scenarios wherein full choreography is employed) to reflect both the mood of the music and support both the soloists and the more accompanimental voices. Another exercise that could prove useful in encouraging eye contact and awareness of group body language is to turn to warm-up exercises and games found within the theatre. These warm-ups, which can include mirroring exercises and games in which partners must communicate using only their eyes, posture, or body language to achieve a goal, could make for excellent warm-ups in the small ensemble as well, building upon the group's sense of emotional connectedness and physical awareness.

In smaller ensembles, especially in one-on-a-part settings, singers should ideally possess a sense of self-awareness in phrasing, meaning that a singer has the intrinsic knowledge of some of the most common rules of phrase-shaping in a choral texture, whether the setting is homophonic or polyphonic. In homophonic settings, this skill relates almost explicitly to the previously mentioned subjects of intonation and balance—singers can be better leaders on their own part by understanding one's positioning in a chord and shaping their sound accordingly. They should also be able to differentiate between bright and dark versions of every vowel, as they will have to communicate with their colleagues in order to find the best vowel shapes for the entire ensemble. In a one-on-a-part situation, the singer carries one hundred percent of the responsibility of the vowel formation and intonation for their assigned part. Such small groups might be more commonly used in polyphonic textures, for example, in Renaissance motets, where

¹⁴³ Ibid.

the original intent was to feature one singer per part and the phrases were composed to accommodate a single singer's breath capacity. In these textures, basic artistry revolves around the idea of passing off leadership to one another based on whose part demonstrates the most important musical material—this could be a cantus firmus, fugue motive, leitmotif, or a more interesting rhythmical figuration. At cadential points, leadership can be assigned to whoever has the line that leads most strongly to the final. This could be the singer with the leading tone, the singer with the flat seven, or the singer who approaches the cadential point with the most rhythmic interest or non-chord neighbor tones. One tenor suggested that an easy way to independently identify one's role in a polyphonic texture is to look at the length of the notes. A singer with longer notes represents the harmonic texture, while a singer with shorter notes or more quickly moving notes is usually the more interesting rhythmical figure.¹⁴⁴ According to professional ensemble singers, this knowledge came mostly from experience in ensembles, or from conductors who took the time to educate them about rules of phrasing. For those who specifically trained in early music techniques, these rules applied to a larger portion of their studied repertoire and were more likely to be addressed in early music ensembles or through early music teachers. Despite many having absorbed this information organically, a few offered suggestions on how young singers might build upon their one-on-a-part phrasing skills. Most of the suggestions revolved around building one's listening skills. One bass-baritone shared an interesting learning experience through auditioning for All-State choirs in high school. In his state, young singers auditioned for positions in the select choir in quartets and octets, but sometimes situations arose where not every voice part was available (in a high school setting where there are often five sopranos for every tenor, this is not surprising). While auditioning with gaps in the ensemble wasn't ideal, it provided an interesting opportunity for him to learn to listen and balance to other parts in the absence of other musical information, and it became all the more

¹⁴⁴ Singer #22, interview by author, September 19, 2019.

apparent to him when a leading vocal line was missing in certain phrases.¹⁴⁵ This example can serve as an excellent potential exercise in training young ears—take out one part and have the other singers note how the music changes and how it affects not only the balance, but the sense of who should be taking the lead at certain moments in a piece. The singer who is removed from the texture can use that time to listen closely to the other parts, giving them a clearer idea of how their individual part serves and adds meaning to the harmonic and rhythmic progression. Another baritone likens his listening skills in small ensembles to that of a chamber musician's, even suggesting the idea of using part books, in the same way a member of a string quartet only has their own notes on the page, to force singers into listening more closely to the other parts rather than relying on the full score. The goal is to be a strong enough musician that one can take information out of a score, but use their ears to come up and out of the score itself in order to connect visually and aurally with one's singing partners.¹⁴⁶ Indeed, having the luxury of a score with multiple parts is a bit of a double-edged sword; it is an invaluable tool in score study, but singers can run the risk of relying solely on the printed notes to guide them and end up neglecting the strength of their own ears.

On the same subject, learning how to study and analyze a score on one's own is, according to many of the singers and conductors interviewed, an invaluable part of building musicianship and musicality. While on the outside it may appear to be a stale task that breeds little depth of feeling, it lays the groundwork for musicians to draw regular links between a specific harmony or phrasing and how it relates to the mood or the text of a work. Once such a practice is made habitual, it translates into a natural musicality that singers express without constantly needing to do the analytical work behind it. Additionally, such a practice encourages musicians to develop a stronger ear and a heightened sense of self-awareness of their own role in

¹⁴⁵ Singer #20, interview by author, September 5, 2019.

¹⁴⁶ Singer #5, interview by author, August 9, 2019.

an ensemble texture. To achieve this natural musicality, singers should have a few strategies for score study and score marking in their tool belt—such acts should not be a job for the conductor alone. Choral singers, like conductors, should develop a set of symbols and markings that indicate various aspects of a musical score. In a classroom setting, the professor could offer a sample set while encouraging them to create their own set of codes, if they wish. Special parts of a score to mark might include, according to one soprano, every voice part's entrances into new phrases, all instances of dissonance with their voice part in relation to others, major cadence points, leading motifs or subjects, and more.¹⁴⁷ This practice would also largely complement one's approach to balance and intonation, as singers can also take the time to mark their note position at cadences, or spots in a piece that are difficult to tune, either harmonically or in terms of registration. Once singers become accustomed to this practice, it eventually becomes much more intuitive, and their musicianship can take the lead. One tenor likens the process of studying a choral score and making independent musical choices to that of a soloist, who is encouraged to study their score and make informed choices to bolster their artistry. Harkening back to the era of Renaissance motets, he asserts that the fact that singers were using part books instead of a full score provides evidence that, in some ways, the ensemble singers of that time period were held responsible for making their own informed musical choices at the level of a soloist, as opposed to having one leader instruct each section on how to shape their phrase.¹⁴⁸

Other singers shared some practical exercises that greatly helped them develop their innate musicality, which bled over into their ensemble technique. For one mezzo, leaning into her love of art song helped her realize the deep artistic and disciplinary parallels between lieder and ensemble singing.¹⁴⁹ The discipline and focus it takes to sing lieder is not unlike what it takes to be a sophisticated ensemble musician; they are both practices that require an investment into

¹⁴⁷ Singer #9, interview by author, August 12, 2019.

¹⁴⁸ Singer #22, interview by author, September 19, 2019.

¹⁴⁹ Singer #17, interview by author, August 24, 2019.

score study and exploring intention. Students who are tasked with diving into a German lied with the care and thoughtfulness of today's most sensitive performers of art song will undoubtedly have a better sense of how they can translate that to an ensemble setting. A tenor with extensive experience in the repertoire of Bach credits the baroque composer as the greatest contributor to his own musicianship. Through his experience as an ensemble musician as well as training other ensemble musicians, he suggests that students be exposed to Bach recitatives in order to better understand the elements of musicianship that are ideal in an ensemble. This includes considering the duration and analysis of line, notes, and musical figures, esoteric intention behind text setting, and even the role of continuo.¹⁵⁰ As several early music experts indicated that they felt their skills as soloists translated easily into ensemble settings, assigning a student a Bach recitative and encouraging them to study the score deeply could make an excellent assignment for developing ensemble musicality. One bass and conductor suggested that trial and error itself yields some of the best learning moments—letting students experiment with wildly different strategies, phrasings, articulations, and moods within a given piece and asking them to reflect on the results (both from an aural as well as kinesthetic perspective) can unlock their self-awareness and start to build a larger palette of musical choices.¹⁵¹

A baritone offered that, at its sum, building innate musicality and self-awareness as an ensemble musician comes from a combination of building upon musical literacy skills as well as vertical listening skills.¹⁵² Ideally, ensemble musicians should be able to come into a group rehearsal much like how an operatic soloist arrives at the sitzprobe—the homework has been done, the music has been massaged carefully into the singer's instrument, and the singer has brought a number of informed musical choices to the table to try out with the full ensemble. Such group rehearsals are never the time to be learning notes or discovering the most basic musical

¹⁵⁰ Singer #21, interview by author, September 16, 2019.

¹⁵¹ Singer #24, interview by author, September 24, 2019.

¹⁵² Singer #5, interview by author, August 9, 2019.

idioms; they are a time for each collaborator to deepen their familiarity and kinesthetic sensations not with their own parts, but with everyone else's. In truth, as one tenor suggested, "Ensemble singing is the smartest kind of singing." Such tasks require a high level of sustained focus, aural and kinesthetic awareness, and sophisticated, collaborative music-making.¹⁵³ At its highest level, ensemble singing is not easy, yet when approached with care and skill, for many it is among the most deeply satisfying ways to make art.

Another aspect of ensemble leadership pertains not to individual responsibility in musicianship, but in collaborating with others in the absence of a designated leader. E

Engaging in respectful collaboration is a skill that can and should be taught to young students. In many of today's small ensembles that operate without a conductor, one of the most desirable skills in those auditioning for that ensemble is their ability to work with others. There are indeed best practices for creating a safe, collaborative rehearsal environment, where ensemble members feel comfortable making suggestions, offering feedback, and accepting constructive criticism. While at the outset, etiquette suggestions may seem obvious (and specific unwritten rules for working with other singers will be covered in greater detail in a subsequent chapter), it is worth discussing how some of the strongest conductor-less ensembles maintain individual leadership yet active teamwork. One of the most prominent small ensembles in the United States, Cantus, employs a specific strategy in which individual members are flagged as "producers" for a specific piece. As producer, they are tasked with providing translations and proper IPA, assigning solos, and bringing in the initial ideas for phrasing and options for interpreting the text. They might also act as the musical leader in performance, leading the ensemble in onsets and changes in tempi. Each piece employs a different producer, thereby each member of the ensemble has opportunities to take the lead in discussing how to prepare a work together. Those who have performed with Cantus speak highly of this process and enjoy how it offers a sense of structure

¹⁵³ Singer #12, interview by author, August 20, 2019.

but allows for open discussion and exploration within the full ensemble.¹⁵⁴ Such a task would make an excellent assignment for a student singer. A mezzo-soprano shared that her most positive experiences in collaborating without a conductor were when the ensemble took on the mentality of a chamber music ensemble or string quartet, in which each musician comes prepared with their own ideas of how to shape the piece. In making decisions about the phrasing, they operated in a largely democratic manner. This is only possible, however, if each ensemble member has arrived to the rehearsal completely prepared and ready to rehearse musicianship.¹⁵⁵ The Grammy award-winning ensemble Roomful of Teeth employs a unique library of sounds that provides them with a (literal) voice of leadership. The ensemble possesses a backlog of recordings of singers employing specific vocal techniques and musical choices which they can consult to better inform them of a specific tone color or technique. According to a soprano affiliated with the ensemble, it often serves as a guide and helps each member better understand one another's voices. It also functions as an incredibly useful resource for commissioned composers, who can access these recordings to better understand the individual strengths of each singer in the group.¹⁵⁶ For many of these groups, ensemble leadership is demonstrated not only through their own vocal prowess and knowledge, but through their sensitivity in discussing musical ideas with their collaborators. In conductor-less ensembles, many decisions are made through democratic discussion, and one part of an ensemble singer's education should be in learning how to communicate with their collaborators, removing one's ego but retaining their self-esteem.¹⁵⁷

It should be noted that one aspect of being an excellent ensemble leader is having strong sight-reading skills. This is not a commonplace activity in a professional rehearsal setting, as all the music has been typically sent and prepared in advance. A colleague who can jump onto

¹⁵⁴ Singer #14, interview by author, August 23, 2019.

¹⁵⁵ Singer #16, interview by author, August 24, 2019.

¹⁵⁶ Singer #18, interview by author, September 1, 2019.

¹⁵⁷ Singer #13, interview by author, August 20, 2019.

another part or quickly learn an additional piece is an invaluable asset, however, and strong reading skills provide numerous benefits to one's overall musicianship. In training excellent sight-readers, one should consult conductor and soprano Rachel Carlson's comprehensive document on developing the skill of sight-reading.¹⁵⁸ In her article "Sight-Reading Insights from Professional Choral Singers: How They Learned Implications for the Choral Classroom," Carlson consults professional choral singers about their methods and experience in sight-reading and unpacks the many varied strategies for cultivating strong sight-readers.¹⁵⁹ In the choral rehearsal room and an ensemble techniques workshop, her research makes for an excellent resource when working with young singers on improving their sight-reading.

Ensemble leadership is a major aspect of what makes an ensemble singer truly a professional, so this topic would be broached in class with much discussion, and by using the responses from interviews as a guide for developing excellent collaborative skills. Using Cantus's producer model, students will have the opportunity to test out their own skills as both a collaborator and leader; they will each be assigned a leadership role for a one-on-a-part piece of their choosing, and will be tasked with preparing the work for a rehearsal without a conductor. Students will use class time to rehearse their pieces together, with the work's given producer taking the lead on managing and directing the rehearsals, as well as offering feedback, diction suggestions, translations, and physically leading any necessary cues. At the end of the semester, students will present the works they have prepared together in concert.

Considering Conductor Language and Gesture

¹⁵⁸ Rachel Carlson, "Teaching Sight-Reading to Undergraduate Ensemble Singers: Lessons from Successful Learners" (DMA diss., University of Maryland, 2016).

¹⁵⁹ Rachel Carlson, "Sight-Reading Insights from Professional Choral Singing: How They Learned and Implications for the Choral Classroom," *The Choral Journal* 60 no. 1 (2019): 9-21.

The aforementioned section covered instances in which ensembles are governed in the absence of a permanent leader, but for most choirs, collaborating with and interpreting the wishes of a conductor is the norm. In an ensemble, choral conductors can either be an incredible asset or an incredible distraction. They can guide a large group of singers to healthy singing and heightened interpretation, resulting in exquisite, exhilarating singing, or they can be actively destructive to their singers on many levels. A conductor's choice of language and gestures are subconsciously absorbed by their singers at all times, and it can result in positive or negative connotations in their singing. While professional singers may be aware of what language helps or hurts, many young singers might not. Singers interviewed were asked about how conductor language and choice of gesture affected their singing, and provided some examples of what practices from conductors that helped to bolster their singing, and which practices they found to be detrimental or distracting. While this proposed curriculum is primarily geared to assist singers, addressing the role of the conductor and having a knowledge of language un conducive to healthy singing can help less experienced singers identify it (and choose to ignore it) if they encounter it in the real world. It can also serve as a resource for aspiring conductors to better understand the impact of their words and actions on their singers.

A conductor's choice of words can make the difference between a successful rehearsal and a detrimental one. As many singers in high school or amateur ensembles have no formal vocal training, conductors often serve as the arbiter of their singers' vocal technique and health. In an ideal world, every conductor would be well-versed in vocal pedagogy, but this is not always the case. For that reason, understanding the pedagogical implications of the language they use in rehearsal is critical. Upon discussing this subject with professional ensemble singers, many offered their preferences with regard to conductor language, and shared their experiences with varying kinds of language strategies. While responses differed somewhat based on each singer's expectation of the conductor's role, there were a number of congruencies among preferences for certain phrases over others. In general, singers find that they respond more positively to

descriptive language that has a context of adding something to one's voice as opposed to negating it. For example, one soprano feels she has more to work with when a conductor asks for the sound to be "simple" or "clean" as opposed to a request to "take out your vibrato."¹⁶⁰ On the subject of vibrato, one bass-baritone concurred that it's more helpful to him to be told what kind of vibrato to use as opposed to an all or nothing mentality; an example here might be the descriptors "narrow," "floaty," or "fluttery."¹⁶¹ By using descriptive language that inspires addition, not subtraction, of vocal techniques, the mindset then shifts to being one of modification, not negation. Conductors should also choose language that begets relaxation and freedom, not inhibition—examples here are the words "free," "simple," "buoyant," and "easy." Words that have a negative context or a connotation that invites tension will, undoubtedly, lead to tense singing, and singers who hear such words should either ignore them or learn to put the request in their own words before executing it. While some singers appreciated explicitly technical language, others found it alienating, especially when the language was too specific or esoteric. One singer mentioned an experience with a conductor who suggested their ensemble "sing with the fourth and fifth partials," which is a specific request that is not entirely within a singer's ability to control. To work around this, singers learned to associate a particular sound with that command when the conductor responded positively afterwards. Eventually, they understood the specific kind of sound the conductor was looking using the process of trial and error and not through direct understanding.¹⁶² Some singers prefer a conductor who uses as little language as possible, simply staying out of the way of the professionals who know their own voices well. According to one bass, his favorite conductors used little language but relied heavily on their ears to detect and inform the ensemble of tension. This is a crucial task as the conductor is often the only person in the rehearsal room who can hear the group with unbiased ears that are not directly

¹⁶⁰ Singer #9, interview by author, August 12, 2019.

¹⁶¹ Singer #5, interview by author, August 9, 2019.

¹⁶² Singer #8, interview by author, August 12, 2019.

involved in the production of sound.¹⁶³ Other singers felt most taken care of in an ensemble in situations where conductors occasionally ceded the floor to amplify the viewpoints of their own singers. Much like how an orchestral conductor might ask for their concertmaster to guide the section and suggest a bowing or strategy, one soprano felt that choral ensembles should be governed similarly, with the conductor turning to section leaders, who intimately know the demands of their own voice part, to provide the technical suggestions and advice.¹⁶⁴ Additionally, out of all musical instruments, the voice is perhaps the most inextricably linked to our sense of self—which is why one tenor brought up the importance of sensitivity when talking about singers' voices. As singers often metaphorically extrapolate their voices as an offshoot of their entire selves, conductors should be careful when addressing specific singers' voices, especially in a group rehearsal setting.¹⁶⁵

Some singers also noted specific physical gestures from conductors that they found had some effect on their singing. Much like choice of language, singers felt they responded much more positively to gestures that invite freedom and ease. One example included using circular, lifting motions in one's conducting to invoke freedom, lift, and buoyancy in the sound. Singers agreed that gestures that are small, sharp, and ambiguous did little to aid in healthy vocalism, and tension both within and outside the conductor's ictus could lead to strained singing. As is the general consensus, tension in the conductor's posture and gesture can be easily absorbed and manifested into stiff singing from their singers; one soprano noticed that even a conductor's furrowed brow could make her feel tense.¹⁶⁶ Singers also suggested that conductors who over-conduct or use overly complicated gestures might be detrimental to the choir's sense of legato,

¹⁶³ Singer #3, interview by author, August 1, 2019.

¹⁶⁴ Singer #11, interview by author, August 19, 2019.

¹⁶⁵ Singer #12, interview by author, August 20, 2019.

¹⁶⁶ Singer #8, interview by author, August 12, 2019.

over-subdividing the beats and creating a choppy sound that invokes more glottal attack (a sound that results in a generally unhealthy smack on the vocal folds) in the ensemble's singing.

In covering this topic in a classroom setting, there is less to work out in practice and more to consider as topics of discussion. Students can reflect on their own experiences in ensembles and discuss what phrases, actions, and gestures aided their performance versus what detracted from it. Such a discussion might pair well with the subject of singer-conductor relationships in the professional world and how to navigate conductor requests while protecting one's vocal health.

Vocal Health and Stamina Management

Performing with an ensemble is not unlike running a marathon. Choirs spend weeks in long rehearsals, engaging in repetitive vocal articulations over the course of several hours in order to prepare for a sustained event of singing that is both vocally and physically tiring. Notably, singers are some of the only musicians who perform entirely from a standing position. Unlike instrumentalists, whose instruments are extrinsic, singing requires full engagement and focus from the entire body. One of the most contentious issues with the university ensemble is the wear and tear it can place on young singers, who typically rehearse for several hours a week in addition to their regular voice lessons, opera rehearsals, and studio classes. In the voice studio, teachers might instruct their students to mark, or, regrettably, to avoid singing at all in the choir rehearsal. While marking is explicitly permitted in the opera rehearsal, it's less clear in the choral rehearsal, wherein singers rely on other voices to create the full picture of the work. For that reason, young choral singers can easily overtire themselves by giving maximum effort at all times. Other times, they neglect their responsibilities (and colleagues) entirely by choosing to mouth the words. So, how can young singers be taught how to manage their stamina and protect their instruments in potentially vocally taxing situations while remaining good colleagues? What is the protocol around marking in a choral ensemble, and how can singers best take care of their instruments before, during, and after a strenuous rehearsal? On another critical topic, how do singers parcel

out their vocal energy when operating as both a soloist and a chorister, a situation commonly found in performances of oratorio or other concert works? When asked about their vocal health habits as choristers, professional singers all offered their specific plans to protect and maintain their vocal health—plans that, for many of them, were developed out of necessity and from years of experience.

For most professional singers, the pressure to sing out at all times has dissipated in the years following their formal music education. As their all-pro ensembles are comprised of strong singers (who are often balancing other singing jobs), few feel the need to go all out, instead using rehearsal time to rely on the strength of their ears and brains, and trusting that their colleagues are doing the same. To mark, singers phonate lightly and easily, using less subglottal pressure on the vocal folds while maintaining glottal closure. This results in a softer, more subdued sound. Depending on the registration, singers will mark both up and down the octave just as soloists might. When choosing to mark down the octave, however, it is courteous to inform one's conductor or colleagues beforehand, as hearing an extra octave might interrupt balance in a chord. In the case of particularly clustered chords, singers and conductors suggest it might be best to either mark in the octave or choose to sit that chord out.

In an ensemble setting, singers who mark might turn the dial down on their vocal fold pressure and volume level, but choose to maintain full energy in their articulation and in their diction in order to continue supporting the ensemble sound. One voice teacher suggested that vocally tired singers should “look forte” while marking or mouthing the words, but in truth, this is only a strategy that should be used in difficult situations where the ensemble lacks a baseline level of trust with the conductor.¹⁶⁷ Ideally, this should never be a solution, because it can confuse conductors as to what their full ensemble's sound is like and it neglects to address the issue itself—that the singer might not be using their voice efficiently, and is therefore tiring themselves

¹⁶⁷ Singer #19, interview by author, September 3, 2019.

out prematurely. There should instead be enough mutual respect between all artistic contributors that no one should ever feel as though they have to fake putting forth effort, and when several singers drop the octave and start marking, the conductor should have the wherewithal and humility to pivot to a less taxing section of the rehearsal.

In the rehearsal room, professional singers shared their strategies to protect their vocal health—for many singers, practicing good vocal health habits boils down to knowing one's instrument, knowing one's limits, and understanding that no one can empathetically feel your strain; with that in mind, the singers themselves must be their own allies. Unless a singer is visibly looking pained, few will detect their vocal strain in an ensemble setting. One singer has a rule for themselves to not repeat vocally taxing passages multiple times. They might allot two or three instances of singing a loud or high note at full volume and force, then choose to mark if the conductor continues to rehearse the same section.¹⁶⁸ Conductors should be aware at all times of passages that require more vocal stamina so they can plan their rehearsals accordingly and not be taken aback when they hear their singers switch to marking. To better visualize and budget their voice use, one voice teacher recommends thinking of one's sound in terms of a large letter V. The sound should always start on the bottom of that shape with a light, simple tone, and then bloom into it. For this singer, allowing herself room to grow into the sound prevents her from starting too heavy and blooming into an unsustainable sound.¹⁶⁹ Other singers stressed the importance of the individual warm up before rehearsal; ensemble singers should warm up their voices thoroughly in the manner that best supports their own technique and healthy singing. This warm up also gives the singer an opportunity to check in with their voice so that they can more clearly hear their baseline energy level and kinesthetically detect vocal strain more accurately. One soprano stressed the importance of the vocal warm down, explaining that after an extended time

¹⁶⁸ Singer #15, interview by author, August 23, 2019.

¹⁶⁹ Singer #19, interview by author, September 3, 2019.

singing in her fortified head voice, she likes to revisit her middle voice using gentle hums and sirens in order to help relax the muscles involved in the more taxing registers.¹⁷⁰

Ensemble singing is a team effort, and many singers suggested using that to their full advantage. According to a bass, one of the benefits of ensemble singing is that one does not always have to give 100 percent at all times. In fact, part of being an ideal vocal colleague is knowing when to pass leadership off to other singers—it is less about singing versus not singing, but vacillating between something like 90 percent and 70 percent for when others are taking the lead.¹⁷¹ If one is utilizing principles of vertical listening and self-aware phrasing, identifying those leaders also provides clues as to when one might be able to take a bit of vocal rest. One bass said it plainly: “Any chance you can lay out, take it.”¹⁷²

Ensemble singers often serve a unique dual role as soloist and chorister in the span of one concert. In these programs, they must manage the steep vocal demand of musically code-switching between a solo singer and an ensemble singer, which compounds their vocal load for the evening. While in larger venues this might not be the norm, it is fairly commonplace in smaller companies and venues. As an example, a church programming a *Messiah* might pull their soloists from their regular section leaders, who step out from the ensemble for their solos and then continue to lead their fellow singers in the choir. This makes for a long night of singing for each of the soloists, whose normally scheduled vocal breaks between solo numbers have been eclipsed by their other musical responsibilities. So, how do singers manage these situations with their vocal health intact? Singers discussed their strategies for managing their vocal stamina in these potentially exhausting engagements. For many singers, they make something of a road map for themselves on the day of the concert, carefully choosing parts of the score in which they need to sing out, and which parts they can mark or sing more lightly. These choices depend on a

¹⁷⁰ Singer #23, interview by author, September 17, 2019.

¹⁷¹ Singer #3, interview by author, August 1, 2019.

¹⁷² Singer #24, interview by author, September 24, 2019.

number of factors: the positioning of certain numbers in relation to their solos, the demands of the ensemble work itself and how they might relate to (or distract from) their solo obligations, and the skill level of their ensemble colleagues. In all-professional ensembles, many singers said they may start marking a few numbers before their solo, or they might wait until the last number or even last few phrases before their solo. When performing with professionals, singers agreed that one should give their colleagues a heads up that they might sing less in the numbers preceding their solo. Most singers would be happy to cover for their colleagues and sing out more, as they have likely been in the same position themselves. In amateur ensembles, in which a few professional singers lead a group of non-professionals, one might not have the luxury of coasting before their solos. In this situation, one singer suggests consistent stamina check-ins with oneself and carefully considering where one may have to sing more soloistically, consciously making less sacrifices to their solo technique to ease the stress of code-switching between an ensemble and solo style of phonation. One bass shared that he finds he has to actively listen more throughout the entire concert in order to detect small moments in which he can back off while remaining the leader in terms of rhythm, articulation and diction.¹⁷³ Another strategy mentioned involved going into the performance not completely warmed up, and using the preceding moments before one's solo as the remainder of the warm up.¹⁷⁴

One tenor shared that his solo/ensemble concert strategy depended largely upon the amount of time he had to prepare the music. Should he receive the contract with plenty of time in advance, he will work the choral parts into his voice like he would a soloist, so that he feels completely comfortable with the evening's vocal load and therefore has little need to strategically back off or sing less. In the event he is hired last-minute, jumping in, or hasn't had the time to include the choral parts in his solo practicing, he will specifically mark the more vocally

¹⁷³ Singer #3, interview by author, August 1, 2019.

¹⁷⁴ Singer #13, interview by author, August 20, 2019.

strenuous moments as well as the movement before his solo.¹⁷⁵ For one soprano, preparation is also key, as she feels that sight-reading can easily throw off her breath support. Interestingly, these observations on sight-singing correlate with the results of a 1996 study on lung volume while learning a new piece of music. Watson and Hixon measured the levels of lung volume initiation and termination while a singer learned a new piece of music, and found an increase in lung volume initiation leading towards flow phonation only in the final practice sessions of the piece; this indicates that initial pass-throughs on a new piece are not conducive to the most efficient vocalization, and that sufficient time and repetition is necessary for a singer to incorporate the healthiest vocal habits in a novel piece of music.¹⁷⁶ In addition to preparation time, this same soprano's strategy is also dependent on repertoire; a number of her engagements are comprised of baroque or classical repertoire, wherein the tone is slimmer and more compact—closer to what she considers her ensemble voice. In these genres, the potential for vocal strain is minimized as less code-switching is required.¹⁷⁷ Another singer considers how to manage code-switching by looking at the score and finding places to maintain focus, resonance, and a soloistic *squillo* in the sound. When the dynamics are forte and above, she might allow herself to adopt more soloistic tendencies, but avoid singing too loudly. When coasting before her solo, she pays special attention to the muscles in her throat, as holding back the sound could invite tension.¹⁷⁸ Yet, despite all the strategizing, it does little to change the fact that such engagements represent some of the more difficult acts of endurance in one's vocal career. As one singer joked, "Pray your solo is early on."¹⁷⁹

¹⁷⁵ Singer #12, interview by author, August 20, 2019.

¹⁷⁶ P. J. Watson and T. J. Hixon, "Respiratory Behavior During the Learning of a Novel Aria By a Highly Trained Classical Singer," *Vocal Fold Physiology/Controlling Complexity and Chaos* 325 (1996): 343.

¹⁷⁷ Singer #1, interview by author, June 16, 2019.

¹⁷⁸ Singer #19, interview by author, September 3, 2019.

¹⁷⁹ Singer #17, interview by author, August 28, 2019.

In covering this topic, students should first learn why vocal health is a necessary aspect of managing a freelance career as a singer. As self-employed musicians, ensemble singers are in charge of monitoring their own vocal health, and they should be aware of the many vocal health issues that can stem from vocal overuse and abuse. An in-class discussion of the stamina management strategies suggested from these interviews can help students formulate their own roadmap for ensuring their vocal health, whether for a long rehearsal or a dual soloist/chorister engagement.

Professionalism & Singer Etiquette

Today's roster of professional ensemble singers is loosely comprised of a few hundred experts who rotate from ensemble to ensemble—for many of them, their continued success in the field has not come as a result of a series of successful auditions, but from being recommended over and over again by a network of administrators and conductors. One bass shared that he almost never has to audition for ensemble work—it comes to him through regular recommendations from colleagues and collaborators.¹⁸⁰ While their talents undoubtedly contribute greatly to their continued success, today's singers need more than talent alone to continue to get hired—they must be excellent collaborators and partners. As ensemble singers regularly collaborate with a myriad of other musicians both professional and amateur, knowing how to work well with others while maintaining one's vocal integrity is a critical skill. In the final portion of their interviews, singers discussed a few unwritten rules of etiquette in collaborating: with conductors, with fellow singers, with composers, and with the unpaid amateur.

The two primary non-singing collaborators an ensemble musician might interface with most are the conductor, and in the case of commissioned works, the composer. In amateur and university settings, the conductor is not only a collaborator but a mentor and teacher to their

¹⁸⁰ Singer #3, interview by author, August 1, 2019.

singers, so the relationship is closer to that of a voice teacher and their pupil than as a partnership. Because this mentor/pupil relationship encompasses every ensemble singer's earliest experiences in choirs, it is easy for professional ensemble singers to fall under the same relationship pattern despite their years of experience and rightful ethos as an equal partner in music-making. While in educational settings, young singers will likely defer to the word of their conductors, it is useful to discuss how that relationship might evolve in the music industry, and how a singer can establish themselves as a fully-fledged musical partner alongside the conductor as opposed to a foot soldier with little musical agency. In professional ensembles, the parameters of the group's leadership are usually clearly defined, but in the healthiest groups, singers feel comfortable expressing their needs and conductors readily accept their partnership. This is not to say a lone singer should hijack a rehearsal, but in most professional ensembles, especially small ensembles, respectfully-phrased thoughts or questions are appropriate should they serve to benefit the entire group. At some point in almost every singer's musical career, they will need to speak up on behalf of their vocal health. Singers should never push themselves past their limit to please or placate a collaborator. In addition to sacrificing the health of their instrument (which is utterly irreplaceable), it sets a precedent that allows the collaborator to assume they can regularly ask too much of their singers. In professional ensembles, singers can mark freely in rehearsal, with the exception of dress rehearsals or instances where a conductor has specifically asked everyone to sing out. Conductors do not need to be informed every time someone needs to mark. In smaller ensembles or situations in which a conductor has a controlling attitude, however, it is worthwhile to take a moment to speak with the ensemble leader before rehearsal or during a break to let them know (not asking permission, but telling them) that they will need to mark select passages. If a conductor is not understanding, they are to be ignored—one's vocal health is more important than pleasing one conductor. In these situations, discreetly mouthing the words or marking in the octave is the best choice. When tasked with something outside of a singer's comfort zone (for instance, if the voice split they were assigned is outside of their usual range), they should feel

comfortable voicing their concerns directly to the conductor, either before or after rehearsal or through e-mail. Usually, a conductor will be completely understanding, and in professional ensembles, a part can easily be reassigned. One bass shared that at the professional level, it is completely okay to admit that one cannot carry out a musical request; while young singers will worry it seems like a cop-out, a group with a high level of collaboration will have no trouble moving parts around.¹⁸¹ One soprano always recommends speaking up when something is difficult, but suggests leading with the phrase, “I want to do my best for you, but...” — respectfully indicating that the singer is a willing musical partner while protecting one’s vocal health.¹⁸²

A similar rule of thumb applies to collaborations with living composers. It is a luxury to work directly with a composer on commissions, and composers themselves usually enjoy the opportunity to collaborate with specific groups of singers as they work on their compositions in real time. Yet, working with living composers comes with a little more pressure to adhere exactly to their compositions, even if the piece is overly strenuous. One soprano whose career lies in both early and new music spoke on the rather large interpretive differences between the two. In early music, she shared, one can take so many compositional elements with a grain of salt; but when working with living composers, it feels rude to change any part of their music and operate under the assumption that they know better than the composer. Yet, politely making a suggestion or expressing a concern to a composer (perhaps by sending that feedback through the conductor or ensemble leader pipeline first) should be permitted and encouraged, especially if the composer is still a student. How else can a composer learn how to write for a multitude of instruments and/or improve their craft if they do not hear from the performers themselves? After all, the performers are just as much a part of a premiere as the composer. The same rule applies here as with

¹⁸¹ Singer #3, interview by author, August 1, 2019.

¹⁸² Singer #19, interview by author, September 3, 2019.

conductors: if, after politely voicing a request or concern, a composer insists on a sound that an ensemble singer is not comfortable with, they then have the license to subtly make their own adjustments for the benefit of their vocal health, whether it's bumping up or down a dynamic level, choosing to mark when necessary, or abandoning diction if a phrase is set in an impossible tessitura.

As ensemble singing is, of course, a group effort, the art of successful collaboration with other singers should be mentioned. These rules of etiquette may seem obvious, and that is because they are—such guidelines for collaboration follow all the general rules involved in being a good colleague in almost any professional setting. There are a few special considerations, however, and they mostly revolve around the rules of giving feedback to fellow singers. The most common iffy question here would be: “Is it ever appropriate to correct your colleague or tell them they’re flat?” In general, singers should remove their ego when collaborating with others and be ready to accept constructive feedback and suggestions, but how that feedback is given is dependent on the collaborative situation and makeup of the ensemble. Is this rehearsal led by a conductor or producer, or is this a small group operating democratically without any specific leader? In the first instance, it’s not especially appropriate to correct a fellow singer when someone is already in charge of the rehearsal, as it not only calls out the individual singer in front of others but undermines the leadership of the person currently in charge. At best, the correction should be handled privately on a one-on-one basis, but sometimes it’s best to not engage and let the problem fix itself. Of course, there are some corrections that will upset no one and fellow singers will appreciate hearing—examples here could be a vowel change, breath mark, or cut that they may have missed. Calling someone out on their intonation in this larger ensemble setting is wholly inappropriate. The rules change a bit in smaller settings without a specific leader, however; if a group is rehearsing in a quartet or other one-on-a-part configuration, singers should feel empowered to speak up as politely as possible when something is amiss, avoiding calling out specific names when possible, and for those on the receiving end of feedback, they should accept

polite feedback graciously and without ego or overly verbose excuse. At the highest levels of music-making, singers prefer to know if they are making a mistake, and are used to receiving and giving feedback. In this situation, it is okay to politely suggest to someone that they are out of tune or out of balance with the other singers.

Out of all instruments, only singers can make a living performing with amateurs. Indeed, the church job is a classic staple of the ensemble singer's monthly income, and often represents some of their earliest professional ensemble work. Despite these jobs' reputations as quick and easy money for professional choristers, there is indeed an art to working with amateur singers. As professional section leaders, one must use their voice in this setting as a leader, not as an equal partner with their fellow choristers. At all times, their voice takes on the roles of the color anchor, the pitch foundation, and the rhythmical leader. In situations where there is only one professional singer per section, this can be an exhausting task. Unlike modifying one's vocalism to work as a team, the section leader instead uses their voice as an "umbrella sound" for the amateur singers to sing under. In this configuration, the section leader can make technical choices without having to consider the other voices. One can sing with more fullness and resonance (almost more soloistically) in this setting—the idea is to have your voice function as the dominant sound in the section.¹⁸³ This should not be done by vocal force alone, however, and being a section leader is not a free pass to sing heavily and loudly. The most efficient way to lead with one's voice is to make clear, defined choices in vowel shape, resonance, diction, and articulation, so that the shape of one's singing is easy for other voices to both hear and emulate. It is unlike an all-professional group, wherein singers work together to create the section's baseline sound. In this amateur setting, the section leader sets the tone, and the amateurs follow. Another added challenge in the paid amateur gig is in interpreting the conductor's feedback, and staying grounded in healthy vocalism when a problem within the section is outside their reach. As indicated by one soprano,

¹⁸³ Singer #19, interview by author, September 3, 2019.

there are times in such an ensemble when a conductor's comments address not the professional singers, but the amateurs, and section leaders should be aware not to overcorrect themselves. As a given example, a professional singer might already be employing minimal vibrato when a conductor asks the ensemble to sing with a slimmer tone. Wanton wobbles from the untrained singers are out of the section leader's control, and they should not shrink their vibrato even further or take their own voice to an extreme to help the ensemble.¹⁸⁴ Knowing that a section leader cannot solve every technical problem in an untrained ensemble with their own vocal modifications is key to maintaining one's vocal health in this setting. For these reasons, collaborating with untrained singers can be frustrating to the professional who is used to making music at a high level, but when approached with a healthy attitude, tempered expectations, and an overall level of warmth and friendliness with their untrained colleagues, these jobs can yield a different kind of satisfaction, as the section leader's talents contribute to the joy and fulfillment of those who sing in choirs for avocational reasons.

In the classroom, students can split up into discussion groups to consider the different groups with whom ensemble singers collaborate. By citing their own experiences as well as the research gleaned from interviews, the class will collectively compile strategies for ensuring professional collaboration between artists, whether they are making music with other professionals or sharing the stage with amateurs.

¹⁸⁴ Singer #11, interview by author, August 19, 2019.

CHAPTER 4: TOWARD AN ENSEMBLE SINGING CURRICULUM

In considering data from both original and existing research, one can see that ensemble singing is a style in its own right. Like classically-trained crossover singers who count show tunes and jazz among their stylistic modalities, ensemble singing can and should exist as its own framework worthy of study. This framework is rooted in the same basic principles of singing technique that encompass healthy vocalizing in all styles, such as breath, posture, placement, articulation, and resonance. Yet, ensemble singing maintains its own set of unique qualities, just like how a jazz singer's approach might differ from that of an opera singer. Through these twenty-five interviews, perhaps most encouraging was the fact that each singer stressed the importance of having a strong backbone of the most basic techniques in singing. Concepts such as breath support, resonance, vowel modification, and stamina management all heavily paralleled what is taught in the solo voice studio. Techniques more unique to the choral ensemble, including reducing vibrato, vertical listening, resonance damping, and intonation modalities, all relate to other basic principles of musicianship, aural skills, and vocalism and some already have a place among other styles of classical vocalism, such as art song. These results show that a technique and skill set for ensemble singing can be developed out of safe, healthy practices rooted in the voice studio. Such practices will appeal to both students and voice teachers. By focusing specifically on the technique of singing in an ensemble, students will spend less time making uninformed guesses in the choral rehearsal room, and instead they will take greater ownership of their contributions to the choir. Voice teachers will feel secure in knowing that their students should not abandon core principles of singing in order to accommodate the needs of an ensemble.

In addition to the pedagogical aspects of ensemble technique, another major asset to the ensemble singer was featured heavily in singers' responses: listening skills. As described by several singers in the study, their strength as an ensemble musician came first from their ears, whether they learned through mimicry in their earliest choral experiences or by developing their

musical ear on instruments other than the voice. Interestingly, few of the interviewees began their musical training with voice lessons; most learned how to listen before they learned how to sing. Developing those listening skills early on in life seemed to provide these singers an enormous advantage in musicianship skills over those who began their training with private voice lessons. As a voice teacher who is often asked what age is appropriate for children to take voice lessons, I have always advocated for young children to begin their musical training with piano, strings, or the children's choir before looking for a voice teacher, because young voices usually are not especially conducive to formal lessons until the vocal anatomy is more developed. Hearing how these alternative musical experiences later bolstered each interviewee's career as both an ensemble musician and a soloist makes an even stronger case for keeping children out of the solo studio until their ears and bodies are ready. They should have not only sufficient vocal stamina, but a strong enough ear to serve as a platform for their vocal development.

In this course, developing listening skills would be a critical aspect of students' instruction, and this can be explored throughout the semester in a few different ways. By putting students into groups where one set is tasked with performing an action, and the other group is tasked with listening and evaluating, students will experience something they rarely get to explore in the choral rehearsal: the opportunity to listen with unbiased ears, without involving their own bone conduction. When leading in-class group rehearsals, students should record their assigned excerpts so that they can later evaluate with their own ears how a musical or technical adjustment affected the group's sound.

While most of the course's content would revolve around the main tenets of ensemble technique discussed in the previous section, there are a number of other skills not specifically covered in the interviews that might make for excellent instructional units. For these topics, previously existing research would inform the instruction. One of these subjects would be the skill of sight-singing. Although professional ensemble singers typically receive their music in advance, thus negating the need to sight-sing in rehearsals, it is a highly valuable skill in the

professional ensemble audition process, where prospective singers are tested on their cold reading ability. Using existing research on training adept sight-readers, as well as tips from music educators, it would be worthwhile to offer a unit that hones in on sight-reading strategies. Such a unit would build upon both the skill of sight-singing itself as well as the singer's own sense of pitch memory, further strengthening the ever-critical listening ear. As previously mentioned, Rachel Carlson's recent research on the development of sight-singing skills would serve as an excellent resource for the class.¹ It should also be noted that from the results of the lung volume study in learning new repertoire by Watson and Hixon, sight-reading is not immediately compatible with the best vocal practices; this is not to say that skill in sight-reading is incongruent with healthy singing, but that students should be aware of how their voice functions when reading new music and be wary of falling into inefficient phonatory habits.² Students would be encouraged to come into class with their assigned repertoire worked into their voices so that flow phonation is more easily attainable.

Another valuable skill in the ensemble singer's arsenal is the ability to read and stylistically articulate Solesmes notation in chant. This is a skill that is rarely taught in the traditional voice studio and is usually reserved for the early music voice student, but in the world of church jobs, it is commonly used. As a young singer's earliest professional contract might be through a regular church job, singers should feel confident reading and executing chant. This skill can be taught using a variety of existing sources, as there exist numerous books on the practice of reading and performing Gregorian chant—Richard Crocker's book *An Introduction to Gregorian Chant* comes to mind.³ For ideas on classroom activities that help acquaint the students with the style, one might consult Richard Smith's article "Recovering Gregorian Chant to Renew the

¹ Rachel Carlson, "Sight-Reading Insights from Professional Choral Singing: How They Learned and Implications for the Choral Classroom," *The Choral Journal* 60 no. 1 (2019): 9-21.

² Watson and Hixon, 343.

³ Richard Crocker, *An Introduction to Gregorian Chant*, (New Haven, CT: Yale University Press, 2000).

Choral Repertory: Part I."⁴ Additionally, Gregorian chant makes an excellent vehicle for practicing non-vibrato singing.

In formulating a university-level course on ensemble techniques, one must also consider the curriculum's purpose and its intended audience. The overarching purpose of this course is to create more self-reliant, self-aware singers. With an ability to thrive in numerous vocal settings, these singers will have far greater advantages and opportunities in the performing world. This course does not have to be limited to only voice majors, however; it can also serve as a resource for conducting or choral music education students who wish to more intimately understand the intricacies of the ensemble voice in order to serve as better collaborators in their own ensembles. This course would be designed with upperclassmen undergraduate or graduate students in mind, and it would more likely be comprised of voice majors or conductors who might be interested in exploring ensemble singing careers. Yet, from my own research on the musical backgrounds of successful ensemble singers, an instrumental background is a major asset to the burgeoning ensemble singer. For that reason, instrumentalists and composers might also make valuable participants in this course.

To develop the course curriculum, I would employ methods of backwards course design, beginning with the course's overall objectives and using both existing and recently gathered research to inform the materials, assessments, and activities. Two essential questions will guide the class: the specific "What methods can we use on an individual basis to create a stronger group sound?" and the more objective "What does it mean to be a self-aware artist?" By continually reminding ourselves of these questions throughout the semester, the class will constantly evaluate how each instructional unit contributes to their ensemble technique as well as their overall artistry.

⁴ Richard Smith, "Recovering Gregorian Chant to Renew the Choral Repertory: Part I," *The Choral Journal* 46, no. 8 (2006): 22-30.

From there, I would set up a list of the course objectives. It is my goal for students to demonstrate proficiency in technical and stylistic elements of ensemble singing, develop an arsenal of healthy, sustainable strategies for ensemble rehearsals, and feel comfortable leading in small chamber ensembles. Looking towards long-term goals, it is my hope that students will feel empowered in pursuing a wider range of performing opportunities that includes professional ensemble work. These objectives inform the potential assessments, which will provide opportunities for students to put the work from readings, in-class assignments, and discussions into practice.

Two major assignments will serve as the course's midterm and final exam. The first relates to the importance of score preparation, vertical listening, and ensemble leadership in small chamber ensemble groups. Students will be tasked with a score preparation project wherein they each choose a different choral work suitable for a chamber ensemble and prepare the score as if they were the piece's producer (in the vein of Cantus's producer model). They will mark their scores to include a myriad of pertinent details for the piece as a whole as well as each voice part, including potential intonation and registration pitfalls, diction, translations, and challenging chords to balance. They will then provide a plan for how they might rehearse and lead a specific portion of the piece and discuss how certain ensemble techniques might be used to realize the piece's intent. For the final assessment, students will perform a short concert of vocal chamber music works. The repertoire will be drawn from the pieces selected for the students' midterm assignments, and each student will act as the producer of their given piece, taking the lead in in-class rehearsals and serving as the anchor for cues and other musical gestures in the performance. In this manner, students will gain hands-on experience in leading ensembles and acting without a conductor, and will have the opportunity to demonstrate the technical skills required of an advanced ensemble singer in a performance setting. Students would be graded on their level of preparation as both a producer and a performer on their colleagues' works. No conductor would be necessary for this final performance, and as the course instructor, I would only serve to assist

each producer and step in as a leader when needed. In Appendix C of this document, I have compiled a list of repertoire that would be suitable for both the score preparation assignment and the final concert. There are of course many more suitable options for repertoire that extend beyond this list, and students should be encouraged to propose their own suggestions for pieces they would like to prepare, but this repertoire was chosen for its adaptability and ease in application for one or two-on-a-part settings, and for its appropriateness for students at an undergraduate level.

The curriculum's main instructional framework would be comprised of several units drawn directly from the hallmarks of ensemble demands as established in the layout of the previous chapter. Each unit will include course readings (some drawn from the resources highlighted in Chapter 2's review of related literature), group vocal exercises drawn from both printed resources and examples from my original research, opportunities for in-class discussion, and an in-class performance component. For this in-class performance component, I will select specific repertoire and/or excerpts that provide ample opportunities to explore and address the topic at hand. Students will prepare the excerpts ahead of time, learning their part as a homework assignment, and come to class ready to explore the subject at hand. As an example, students might be assigned excerpts from Purcell's "Hear My Prayer, O Lord" when covering vertical listening and balancing challenging chords; a Monteverdi madrigal might serve as an effective vehicle for playing around with bright and covered resonance spaces, and when covering extended techniques, students might be tasked with learning portions of repertoire by Caroline Shaw. This in-class performance component will serve as a major portion of the students' daily grade. I have included a list of repertoire that could serve as excellent learning tools for exploring specific aspects of ensemble technique in Appendix C of this document. In addition to learning segments of choral works, students will also be tasked with learning a simple Bach recitative to explore the idea of how musically shaping words and phrases can elucidate dramatic intent—this is drawn directly from my own research, where several singers drew easy parallels between

Bach's repertoire and the choral style. To ensure that each student has a basic awareness of the vocal mechanism, some of the earliest classes will cover simple vocal pedagogy and the structure of singing. While this may seem redundant to the vocal performance students who may have already taken a vocal pedagogy class, I believe this topic is vital to include if I wish to make this course available to instrumentalists interested in exploring ensemble singing. A short quiz which covers the names of and functions of the vocal mechanism as well as the structures involved in breathing and resonance will ensure that students can better understand and take care of their instruments for the in-class rehearsals.

Choral singing is an abundant, eternal art form, and is universally beloved by people across the world. There is something incredibly special about uniting a myriad of completely unique human voices, and the aural and kinesthetic sensation of "locking in" to a special chord is, for many singers and conductors alike, an addicting and electrifying feeling. Every person who wants to sing in a choir can and should, regardless of skill level—the experience of making music with others using one's natural instrument is one of the great gifts of being human. On an elevated level, ensemble singing is one of the most psychologically challenging instruments to master, as it requires constant focus, abandonment of the ego, consistent, active engagement of the body, and the simultaneous actions of both listening to and producing sound. As one tenor mentioned, ensemble singing is perhaps the most intellectual form of singing, which is perhaps why it is so incredibly rewarding when done well.⁵ For this reason, there should be more avenues for trained singers to take this art form to the highest possible level. With contemporary vocal ensembles garnering more attention in the classical music world in the past few years, today's students would be wise to prepare themselves for the option of sustaining freelance careers entirely based in ensemble singing. The inclusion of a workshop-style course that hones in on each element of what makes ensemble singing unique could empower a generation of young

⁵ Singer #12, interview by author, August 20, 2019.

singers to pursue more options for their career, which could result in a more financially stable lifestyle in an otherwise difficult industry. Not everyone with a vocal performance degree is destined for the opera stage; students should not feel pressured to pursue only one option for their singing careers. By elevating the importance of ensemble style in the 4-year university curriculum, students can receive a more balanced, realistic education that better prepares them for the many ways their voices can be heard.

APPENDIX A: LIST OF INTERVIEWEES

Special thanks is due to these professional singers and conductors, musicians at the top of their game, who generously shared their time and experience with me and whose ideas have helped generate the framework for this curriculum:

Dr. Nicole Aldrich
Dr. Katie Baughman
Steve Berlanga
Amy Broadbent
Bille Bruley
Dr. Rachel Carlson
Liz Daniels
Dusty Francis
Olivia Sue Greene
Matthew Goinz
Esteli Gomez
Jeremy Gussin
Crossley Hawn

Matt Hill
Liz Johnson Knight
Dr. Allan Laino
Arietha Lockhart
Dr. Edward Maclary
Rachel Mikol
Patrick Muehleise
Clara Osowski
Margot Rood
Steven Soph
Gregorio Taniguchi
Jonathan Woody

APPENDIX B: COURSE SYLLABUS & SCHEDULE

The following documents serve as potential options for a course syllabus and schedule for a semester-long workshop-style course in ensemble singing. The syllabus includes a course description and essential questions, course goals, suggested materials, supplemental texts, course responsibilities, an overview of major assignments, and a grading policy. The course schedule, which is designed to accommodate two academic credits of work per week, offers a week-by-week description of topics, in-class activities, and proposed readings for discussion.

Ensemble Techniques for Singers

Sample Syllabus

Instructor:

Office:

Office Hours:

Course Description

In this course, we will address technical training and methods in ensemble singing, distinguishing its practices from solo vocal technique. Through supervised class performances of a variety of chamber choral works, we will develop a road map of sustainable ensemble techniques that will create more versatile musicians. Two essential questions will guide us in our exploration of ensemble technique: “What does it mean to be a versatile singer?” and “What methods can we use on an individual basis to create a healthy, unified sound in a group?”

Course Goals

By the end of the semester, students will be able to:

1. Demonstrate stylistic proficiency in technical and musical elements of ensemble-based singing
2. Rely on healthy, sustainable vocal practices to allow for a vocal instrument that easily blends in a group
3. Distinguish technical elements of solo singing versus ensemble singing and switch between styles healthily
4. Effectively lead rehearsals for small vocal chamber groups
5. Feel empowered and prepared to pursue a greater range of professional opportunities for singers, resulting in a more effective, versatile (and wealthier!) singing artist

Course Materials

Articles and chapters will be made available online through Canvas.

Supplemental Texts (not required):

Margaret Olson, *The Solo Singer in the Choral Setting: A Handbook for Achieving Vocal Health*
Julia Davids and Stephen LaTour, *Vocal Technique: A Guide for Conductors, Teachers, and Singers*

Course Responsibilities

First, a note on attendance: Because this class contains a substantial amount of in-class group singing, attendance in class is mandatory. Out of respect for your colleagues, please arrive to class on time, warmed up, and prepared to sing.

- Absences: Absences will be excused if notice is given to the instructor at least an hour in advance or proper documentation is provided (i.e. a doctor’s note or a note from the registrar). Two unexcused absences will result in the student’s overall grade being dropped by one letter. Each subsequent unexcused absence will result in a half letter grade being lowered.

- Tardiness: A student who is more than fifteen minutes late without notifying the instructor will be counted as absent for the day.
- Assignments: Please prepare course readings and repertoire assignments before class. For in-class performances, students are expected to know their music note-perfect (it is not necessary to be off-book). This class is devoted to exploring musical styles and technical elements of ensemble singing, thus there will be no time given in class to rehearse pitches and rhythms. Unprepared music will result in a grade of F for the particular assigned piece.

Assignment Overview

In-Class Participation (20% of grade)

Comprised of attendance, participating in class discussions, taking part in feedback and reflection sessions during supervised performance practice and masterclass settings.

Prepared Motets (30% of grade)

Each week students will be asked to prepare a motet (typically four-voice motets but may include up to six voices, depending on enrollment) from the Renaissance era and perform it one or two on a part. Students will perform either sections of the piece or the entire piece for their colleagues. Students are expected to come in with their particular voice part learned.

Vocal Anatomy Quiz (10% of grade)

Following a brief unit of Voice Pedagogy and before instruction on technical methods begins, students will be quizzed on the basic anatomy of the singing voice, including methods of breath support, the structure and functions of the larynx and pharynx, and a very basic awareness of vocal formants and their importance.

Score Project (20% of grade)

Students will be asked to prepare a choral score of their choosing, marking all vocal lines with appropriate musical markings to allow for a unified ensemble, indicating in what way important chords should be balanced, important parts of the text or the presence of text painting, etc. To accompany the marked score, the student will write a short essay (3-4 pages) detailing the history of the piece, their recommended suggestions for performance practice, and a road map of how one might lead an ensemble in preparing this piece.

Final Performance (20% of grade)

Students will present an evening of choral chamber works representing early and contemporary eras of music, singing one on a part. Repertoire will be largely assigned midway through the semester, but the instructor will take student requests into account. Singers can be expected to perform on at least two pieces.

Grading Policy for Singing Assignments

A – Excellent work showing a high degree of preparation. Goes beyond accuracy and demonstrates thoughtful musical ideas, skillfully incorporates ensemble singing methods appropriate for the repertoire, is aware of other vocal lines in creating a balanced sound

B – Good work. Notes and rhythms are mostly accurate and some appropriate stylistic gestures may be present.

C – Passable. The student has attempted to prepare the piece but there are more than three instances of obvious pitch or rhythmical errors, the style may be lacking, and musicality is largely an afterthought

D – Poor. There are multiple errors in pitch and rhythm, little to no thought on musical style or attempts to blend with other voices. A lack of preparation is abundantly clear.

F – The student failed to prepare the piece on all accounts.

Ensemble Techniques for Singers

Sample Schedule

| Date | Reading(s) | Assignment(s) |
|---|--|--|
| WEEK 1: Introduction to Choral Singing/A Brief History of the Choral Tradition | | |
| WEEK 2: Anatomy of the Voice | <p>Barbara Doscher, "Anatomy of the Larynx," <i>The Functional Unity of the Singing Voice</i></p> <p>Kenneth Bozeman, <i>Practical Vocal Acoustics: Pedagogic Applications for Teachers and Singers</i>, Ch. 3 & 4</p> | |
| WEEK 3: Solo vs. Choral Singing | <p>Hansen, Sharon A., Allen Henderson, Scott McCoy, Donald Simonson, and Brenda Smith. "On the Voice: Choral Directors Are from Mars and Voice Teachers Are from Venus"</p> <p>Thomas D. Rossing, Johan Sundberg, and Sten Ternström, "Acoustic Comparison of Voice Use in Solo and Choir Singing"</p> | <p>Repertoire: "Ave verum corpus" (Mozart)</p> <p>Vocal Anatomy Quiz</p> |
| WEEK 4: Posture and Breath Flow | <p>Julia Davids, Stephen LaTour, Ch. 2 "Breath Control," <i>Vocal Technique</i></p> <p>Duane Cottrell, "On the Voice: Support or Resistance? Examining Breathing Techniques in Choral Singing"</p> | <p>Repertoire: "Sicut cervus" (Palestrina)</p> |
| WEEK 5: Phonation and Resonance | <p>Laurier Fagnan, "Research Report: "Chiaroscuro" Resonance Balancing: The "Bel Canto" Answer to Choral Tone and Intonation Problems"</p> | <p>Repertoire: Excerpts from</p> <ul style="list-style-type: none"> - <i>Elijah</i> (Mendelssohn) - "O schöne Nacht" (Brahms) - "When David Heard" (Tallis) |

| | | |
|--|--|---|
| | John Weiss, “Operatically Trained Singers in the Collegiate Choral Rehearsal” | Bring in 30 seconds of a Mozart aria or song (does not need to be memorized) |
| WEEK 6: Vowel Modification and Vocal Colors | Mallorie Chernin, “Vowel Modification Made Easy” Larry Wyatt, “Blend in Choral Sound: Factors Related to its Achievement – Vowels” | Repertoire: “Si ch’io vorrei morire” (Monteverdi) Due: Proposed selection for Producer piece |
| WEEK 7: Vibrato | Julia Davids, Stephen LaTour, Ch. 7 “Vibrato,” <i>Vocal Technique</i> John Nix, "New Voices in Research: Vibrato and Non-Vibrato Singing: Who Teaches It? How Do They Teach It? Does It Make a Difference?" | Repertoire: “Superflumina babylonis” (Palestrina) |
| WEEK 8: Tuning, Balance, and Vertical Listening | Gage Averill, “Bell Tones and Ringing Chords: Sense and Sensation in Barbershop Harmony” | Repertoire: Excerpts from - “Hear my prayer, O Lord” (Purcell) - “Aussi bas que le silence” from <i>Figure Humaine</i> (Poulenc) - “When It’s Sleepytime Down South” (Tag) Practice modal & octatonic scales |
| WEEK 9: Ensemble Leadership and Etiquette | | Repertoire: “Surgens Jesus” (Di Lasso) |
| WEEK 10: Chant & Sight-Reading | Richard Smith, “Recovering Gregorian Chant to Renew the Choral Repertory: Part I” | Repertoire: “Ubi Caritas” (Antiphon) Due: Score Project for Producer piece |
| WEEK 11: Extended Techniques | Stuart Hinds, “How to Teach Overtone Singing to Your Choir” | Repertoire: Excerpts from - “Passacaglia” from Partita for 8 Voices (Shaw) |
| WEEK 12: Producer Rehearsals | | Producer-led rehearsals for their selected pieces |
| WEEK 13: Producer Rehearsals | | Producer-led rehearsals for their selected pieces |

| | | |
|---|--|--|
| WEEK 14: Dress Rehearsal and Final Performance | | Live performance of selected pieces, led in performance by Producers |
|---|--|--|

APPENDIX C: SUGGESTED REPERTOIRE

The following musical selections have been selected as suggested repertoire for potential in-class performance exercises, as well as possible repertoire selections for students' Score Project and Producer Project, wherein they will prepare the chosen score and formulate a rehearsal plan as the piece's designated Producer. Repertoire has been selected for its relevance to weekly course topics, as well as its flexibility in accommodating different configurations and groups of singers, from as few as one singer per voice part. For the final concert, all music will be a cappella and must be able to be performed without a conductor. There are a multitude of other excellent options available, but here is a beginning list of options.

| | |
|--------------------------------------|--|
| Biebl, "Ave Maria" | Mozart, "Ave Verum Corpus" |
| Bruckner, "Locus iste" | Pacey (arr.), "Danny Boy" |
| Burleigh, "My Lord, What a Morning" | Palestrina, "Sicut cervus" |
| Byrd, "Ave Verum" | Palestrina, "Superflumina babylonis" |
| Byrd, "Justorm animae" | Palestrina, "Adoramus te" |
| Durufié, "Ubi caritas" | Palestrina, "Alma Redemptoris Mater" |
| Dove, "In Beauty May I Walk" | Palestrina, "Exultate Deo" |
| Gibbons, "Drop, Drop, Slow Tears" | Palestrina, "Magnificat primi toni" |
| Gibbons, "O clap your hands" | Parker (arr.), "Hark I Hear the Harps Eternal" |
| Gjeilo, "Second Eve" | Parry, "There Is an Old Belief" |
| Gjeilo, "Ubi caritas" | Purcell, "Hear my prayer, O Lord" |
| Hogan, "Were You There?" | Runestad, "Let My Love Be Heard" |
| Joel, "Lullabye" | Scarlatti, "Exultate Deo" |
| Joel, "And So It Goes" | Shaw, "Passacaglia" from <i>Partita for 8 Voices</i> |
| Lassus, "Surgens Jesus" | Tallis, "God Grant with Grace" |
| Lassus, "Alma redemptoris" | Tallis, "When David Heard" |
| Lassus, "Jubilate Deo" | Tallis, "If ye love me" |
| Mealor, "Ubi Caritas" | Taverner, "Mother Of God, Here I Stand" |
| Monteverdi, "Cantate Domino" | Taverner, "The Lamb" |
| Monteverdi, "Si ch'io vorrei morire" | Victoria "O magnum mysterium" |
| Monteverdi, "Ecco mormorar l'onde" | Whitacre, "This Marriage" |
| Monteverdi, "Baci, soave e cari" | |
| Monteverdi, "Sfogava con le stelle" | |

APPENDIX D: SELECTED COURSE READINGS

- Averill, Gage. "Bell Tones and Ringing Chords: Sense and Sensation in Barbershop Harmony." *The World of Music* 41, no. 1 (1999): 37-51.
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