

APPLYING THE STUDY OF *BEL CANTO* VOCAL TECHNIQUE  
TO ARTISTIC HORN PLAYING: PERFECT LEGATO,  
BEAUTIFUL SOUND, AGILITY, AND  
MUSICAL EXPRESSION

by

Denise Lyn Root Pierce

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SIGNED: Denise Lyn Root Pierce

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## DEDICATION

To my mother, whose musical expressiveness is like no other.

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## ABSTRACT

Horn players can improve their abilities to play artistically in a lyrical *legato* style, with a light mechanism, and employ a beautiful sound throughout the range of the horn through the study of *bel canto* vocal technique. No better singing model exists for horn players than that of the great *bel canto* singers of the early nineteenth century who were known for their refined technique, perfect *legato*, even tone, sparkling agility, and beautiful musical expression. Mastery of the expressive *bel canto* melodic style is a means for horn players to achieve artistry in performance. Pedagogical principles of nineteenth- and twentieth-century *bel canto* teachers, vocal exercises related to development of *bel canto* technique, and recorded performances of singers who have specialized in *bel canto* repertoire are examined. This study culminates in performer's guides to repertoire chosen from the few existing early nineteenth-century solo horn with piano pieces (by Balfe, Mercadante, and Rossini), with *bel canto*-informed horn technique explained.

## CHAPTER I

## INTRODUCTION

## Intent and scope of study

The general purpose of this study is to establish a singing approach to horn performance. No better singing model exists for horn players than that of the *bel canto* school—“beautiful singing.”<sup>1</sup> The great *bel canto* singers of the early nineteenth century were known for their refined technique, perfect *legato*, even tone, sparkling agility, and beautiful musical expression. Mastery of the expressive *bel canto* melodic style is a means for horn players to achieve artistry in performance. In fact, early nineteenth-century horn virtuosos studied singing as a means to improve their artistry.<sup>2</sup>

It is the intent of this study to examine the correlations between *bel canto* technique and horn playing. Pedagogical principles of nineteenth- and twentieth-century *bel canto* teachers, vocal exercises related to development of *bel canto* technique, and recorded performances of singers<sup>3</sup> who have specialized in *bel canto* repertoire are examined. Relevant *bel canto* singing attributes are then applied to horn technique.

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1. “. . . refers to the Italian vocal style of the 18th and early 19th centuries, the qualities of which include perfect *legato* production throughout the range, the use of a light tone in the higher registers and agile and flexible delivery. More narrowly, it is sometimes applied exclusively to Italian opera of the time of Rossini, Bellini and Donizetti.” Owen Jander and Ellen T. Harris. “*Bel canto*.” *Grove Music Online*. *Oxford Music Online*, accessed April 10, 2009, <http://www.oxfordmusiconline.com/subscriber/article/grove/music/02551>

2. Horace Fitzpatrick, *The Horn and Horn-playing, and the Austro-Bohemian Tradition from 1680-1830* (London: Oxford University Press, 1970), 179.

3. e.g. Cecilia Bartoli, Kathleen Battle, Enrico Caruso, Renée Fleming, Amelita Galli-Curci, Benjamino Gigli, Marilyn Horne, Lilli Lehmann, Nellie Melba, Luciano Pavarotti, Anne-Marie Rodde, Joan Sutherland, Luisa Tetrazzini.

The present study only addresses those aspects of *bel canto* singing technique that correlate with horn techniques useful for developing artistic horn playing. The four specific aspects of *bel canto* technique explored are: *legato*, tonal evenness, agility, and musical expression. This study culminates in performer's guides to repertoire chosen from the few existing early nineteenth-century solo horn with piano pieces,<sup>4</sup> with *bel canto*-informed horn technique explained.

#### Statement of Primary Thesis

Horn players can improve their abilities to play artistically in a lyrical *legato* style, with a light mechanism, and employ a beautiful sound throughout the range of the horn through the study of *bel canto* vocal technique.

#### Justification (Survey of Literature)

This study is unique in its application of drawing correlations between *bel canto* vocal style and horn technique as applied to artistic horn performance. The included repertoire for horn and piano distinguishes the present study from pedagogical treatises since it is typical to focus on isolated exercises rather than exercises in preparation for

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4. Michael Balfe, *Cantata: Sempre pensoso e torbido*; Saverio Raffaele Mercadante, *Concerto for Horn*; and Gioachino Rossini, *Introduction, Andante et Allegro*.

performance of specific musical works. While there are four doctoral dissertations<sup>5</sup> that are related to the present study, they either do not address the horn, do not consider the art of singing, or do not demonstrate application of the *bel canto* contribution to musical repertoire.

In order to establish the viability of the present study, a survey of related literature was undertaken. Three categories of literature were found: sources addressing singing on the horn (written by horn or brass performers and teachers), sources concerning vocal *bel canto* singing, and sources dealing with the development of musical expression. In several cases, a source bridged two areas, e.g. singing on the horn and musical expression.

### Singing on the Horn

Louis-François Dauprat, in his *Méthode de Cor Alto et Cor Basse*,<sup>6</sup> was an advocate of studying singing as a supplement to the study of horn. Dauprat includes adaptations of “*solfèges* that the late Mengozzi and other professors at the *Conservatoire*

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5. Malcolm Eugene Beauchamp, “The Application of *Bel Canto* Concepts and Principles to Trumpet Pedagogy and Performance.” Ph.D. Diss., The Louisiana State University and Agricultural and Mechanical College, 1980; Barbara Kay Zumwalt Comelek, “Allusions to the Vocal Art in Selected Wind Instrument Pedagogical Sources (Brass, Woodwind).” D.A. diss., Ball State University, 1985; Paul William Stevens, “Bowings for Brass: A Visualization Tool for Horn Players.” D.M.A. diss., University of California, Los Angeles, 2000; Virginia M. Weichman Thompson, “A Comprehensive Performance Project in Horn Literature with an Essay Consisting of a Comparison of Selected Writings on Melodic Interpretation.” D.M. diss., University of Iowa, 1987.

6. Louis-Francois Dauprat, *Méthode de Cor Alto et Cor Basse (Complete English translation of the first edition published by Zetter, Paris, ca. 1824)*, edited by Viola Roth (Bloomington, IN: Birdalone Music, 1994).

selected out of the works of the most celebrated Italian composers” in his *Méthode*. He states,

Teachers of wind instruments have not been able to recommend this Singing Method too highly to their students, as it contains so many precepts that are just as useful for instrumentalists as for singers. It is particularly suitable for shaping the student’s style in that it teaches him to phrase melodies and give them expression, to play with taste, to place all the musical ornaments with discernment, and finally, to imprint upon each piece the character that belongs to it.<sup>7</sup>

These adaptations, however, were intended for the hand horn and are limited to the one singing method from the Paris Conservatory.

In his books, *The Art of Musicianship*,<sup>8</sup> *The Art of French Horn Playing*,<sup>9</sup> and *The Art of Brass Playing*,<sup>10</sup> Philip Farkas, former principal horn of the Chicago, Cleveland, and Boston Symphony Orchestras, recognizes the importance of listening to performances of music in order to develop a mature understanding of musicianship. Farkas states, “A musical environment is important in the development of a sensitive musician. This environment includes frequent listening to artists . . .”<sup>11</sup> Regarding lyrical phrasing, he refers to building up to the peak of a phrase as the “pivot-point” of the phrase. He does not, however, draw specific connections with horn technique in order to

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7. Ibid., 196.

8. Philip Farkas, *The Art of Musicianship* (Rochester, NY: Wind Music, Inc., 1976).

9. Philip Farkas, *The Art of French Horn Playing: A Treatise on the Problems and Techniques of French Horn Playing* (Evanston, Il.: Summy-Birchard, 1956).

10. Philip Farkas, *The Art of Brass Playing : A Treatise on the Formation and Use of the Brass Player's Embouchure* (Rochester, N.Y. : Wind Music, Inc., 1989).

11. Farkas, *The Art of Musicianship*, 7.

show how to achieve the pivot-point successfully. According to Farkas, the “pivot-point” in a musical phrase “almost always (includes) one or more ‘pivot notes,’ around which the phrase seems to center.”<sup>12</sup> He calls them “pivot” notes because

. . . as the phrase leads to such a note, it seems to require more and more intensity (like traveling up-hill) until this note is reached, at which point the direction pivots and a feeling of relaxation appears (like reaching the crest of a hill and starting down the other side).<sup>13</sup>

Farkas draws his musical examples for practicing musical horn playing from orchestral literature and suggested etude books. He utilizes instrumental music rather than vocal music but does not include reference to solo horn literature. Farkas refers to the desirability of a singing style, the importance of *legato* as it relates to singing and one of the techniques necessary to accomplish it, stating, “One of the most beautiful characteristics of the horn is its ability to sing. A well-controlled *legato* is the most important factor in making any brass instrument sing.” Continuing, Farkas addresses the importance of achieving this superb *legato* style, stating, “if we are to get the utmost beauty of *legato*, it is important to *consciously vibrate the lips between notes*.”<sup>14</sup> He also refers specifically to another technique related to vocal style: forming vowel sounds in the oral cavity as an aid to slurring—a technique critical to achieving a true horn-singing style.

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12. Farkas, *The Art of French Horn Playing*, 55.

13. Ibid.

14. Ibid., 46.

Oscar Franz, in his book *Complete Method for the French Horn*, gives directions for phrase interpretation and includes some “Exercises for Style and Interpretation” in order “to acquire correct and systematic breathing together with the Art of Phrasing.”<sup>15</sup> His exercises are taken from orchestral and chamber music literature, but do not include specific technical resources to achieve smooth *legato* or desired singing style. He does mention an approach to executing a slur which references a vocal technique: “A higher note is connected with a lower one by means of a slight contraction or pressure of the larynx towards the higher note.”<sup>16</sup>

Several comprehensive books about horn playing, including Gunther Schuller’s *Horn Technique*,<sup>17</sup> *The Horn Handbook* by Verne Reynolds,<sup>18</sup> *Collected Thoughts on Teaching and Learning, Creativity, and Horn Performance* by Douglas Hill,<sup>19</sup> Barry Tuckwell’s *Horn*,<sup>20</sup> and *Teaching Brass: A Resource Manual* written by multiple authors,<sup>21</sup> do not address the subjects of lyricism, expressiveness or singing in detail. These sources do, however, discuss tone production and tone quality, *legato* playing,

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15. Oscar Franz, *Complete Method for the French Horn*, English text by Gustav Saenger (New York: Carl Fischer, n.d), 51.

16. *Ibid.*, 33.

17. Gunther Schuller, *Horn Technique*, 2nd ed. (Oxford; New York : Oxford University Press, 1992).

18. Verne Reynolds, *The Horn Handbook* (Portland, Or.: Amadeus Press, 1997).

19. Douglas Hill, *Collected Thoughts on Teaching and Learning, Creativity and Horn Performance* (Miami, FL: Warner Brothers Publications, 2001).

20. Barry Tuckwell, *Horn* (New York : Schirmer Books, 1983).

21. Wayne Bailey, William Stanley, Thomas Stein, Alan Siebert, Patrick Miles, *Teaching Brass: A Resource Manual* (Columbus, OH: McGraw-Hill, 1992).

intonation, horn history, technical aspects of slurring and breath support, and the value of using recordings as a supplement to learning. Phrasing is mentioned only in the sense that breath control is an important element. A thorough and practically applicable approach to aspects of musical expression appears to be outside the scope of these sources.

Several books about the horn, including Birchard Coar's *The French Horn*,<sup>22</sup> Robin Gregory's *The Horn*,<sup>23</sup> and Milan Yancich's *A Practical Guide to French Horn Playing*,<sup>24</sup> address certain aspects related to the present study. Topics include physical aspects of playing, an approach to achieving a smooth *legato*, a perspective on when to breathe during a phrase and when to tongue, achieving smooth slurs, developing a beautiful sound, good breathing and tone placement technique. Exercises may or may not be included, but none of these authors apply the techniques to horn repertoire.

Fred Fox, in his book *Essentials of Brass Playing*,<sup>25</sup> briefly addresses many aspects of a singing approach to playing. These include use of the vowel sound to accomplish consistent tone quality throughout the range of the horn and keeping an open, relaxed throat even in the upper register. He explains each principle and how to achieve it, but does not include musical examples.

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22. Birchard Coar, *The French Horn* (Ann Arbor, MI: Edwards Brothers, 1947).

23. Robin Gregory, *The Horn; a Comprehensive Guide to the Modern Instrument and its Music*, revised and enlarged edition (New York: F. A. Praeger, 1969).

24. Milan Yancich, *A Practical Guide to French Horn Playing* (Bloomington, IN: Wind Music, 1971).

25. Fred Fox, *Essentials of Brass Playing : An Explicit, Logical Approach to Important Basic Factors that Contribute to Superior Brass Instrument Performance* (Los Angeles: Fox, 1974).

Marvin Howe appears to have favored a singing approach to playing the horn. In his *Method for French Horn*,<sup>26</sup> Howe states, “Believing as I do that the horn is best as a singer of smooth melodies, I have laid heavier stress on *legato* playing than is usual in most beginning brass methods.”<sup>27</sup> His method contains many exercises intended to develop a *legato* style, but lacks specific instruction in how to technically achieve the most successful *legato*. Further, the method does not include specific melodies drawn from vocal repertoire. In his dissertation “A Critical Survey of Literature, Materials, Opinions, and Practices Related to Teaching the French Horn,” Howe concludes that an effective approach to horn performance includes a number of qualities that correspond to *bel canto* artistry: “A great help in ensuring success is a good foundation based upon discriminate listening, effective breath control, an easy lip vibration, and truly controlled resonance.”<sup>28</sup>

Frøydis Ree Wekre, in her book *Thoughts on Playing the Horn Well*,<sup>29</sup> refers to a mandatory element of playing with a singing style. She writes, “Make the slurs impeccable—no holes, no bumps, just one long smooth line.”<sup>30</sup> She provides valuable slur exercises, but fails to specifically provide the student with detailed information about how one might accomplish the beautiful slur suggested.

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26. Marvin C. Howe, *Method for the French Horn* (New York, Remick Music Corp., 1950).

27. *Ibid.*, iii.

28. Marvin C. Howe, “A Critical Survey of Literature, Materials, Opinions, and Practices Related to Teaching the French Horn” (Ph.D. diss., University of Iowa, 1966), 329.

29. Frøydis Ree Wekre, *Thoughts on Playing the Horn Well* (Oslo, Norway: Frøydis Ree Wekre, 1994).

30. *Ibid.*, 6.

In his book *Brass Performance and Pedagogy*,<sup>31</sup> Keith Johnson, Professor of Trumpet at the University of North Texas, states,

The player should listen to fine vocal recordings of singing in comparable registers and character that impart some of the flowing, seemingly effortless musicianship so desirable in any performing medium.<sup>32</sup>

In a fashion similar to the pedagogical tradition of *bel canto*, he goes on to suggest to students that they should,

Spend a few minutes each day playing simple tunes, very easy passages, and slow, smooth scales so that you can really listen to the sounds being produced. It is easy to become so absorbed in the technical difficulties of the instrument that attention to musicality receives short shrift.<sup>33</sup>

He draws many parallels between brass playing and the voice and singing:

For all its seeming complexity, the embouchure is a rather simple entity that, much like a singer's vocal cords, tends to be not so much changed or improved in and of itself but rather improved by changing the energy (i.e., the breath) that activates it.<sup>34</sup>

Johnson is an advocate of a singing approach to a brass instrument, but, valuable as his perspectives are, he does not provide specific information about the technique required to accomplish it on brass instruments, or suggest specific exercises or repertoire as an aid in practicing.

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31. Keith Johnson, *Brass Performance and Pedagogy* (Upper Saddle River, NJ: Prentice Hall, 2002).

32. *Ibid.*, 84.

33. *Ibid.*, 85.

34. *Ibid.*, 32.

The wisdom of master teacher Arnold Jacobs was compiled by Brian Frederiksen in his book *Arnold Jacobs: Song and Wind*.<sup>35</sup> Of particular value to all wind players, especially those who play brass instruments, Frederiksen captures Jacobs' insights regarding the physiological and psychological aspects of breathing in, blowing out, and converting concept into beautiful tone and meaningful musical sound.

A similar book by Todd Miller, *Carved in Stone: the Life and Musical Legacy of Vincent DeRosa*,<sup>36</sup> is a thorough exposition of DeRosa's approach to playing and teaching the horn. Since DeRosa's playing is amply documented in recordings, especially for Hollywood film soundtracks, his lyrical *bel canto* approach to the instrument can be heard and correlated with his performance and pedagogical philosophy.

Four doctoral dissertations are related to the present study, though in important respects they do not duplicate the present performance document. In his dissertation "The Application of *Bel Canto* Concepts and Principles to Trumpet Pedagogy and Performance,"<sup>37</sup> Malcolm Beauchamp compares basic *bel canto* pedagogical principles with trumpet pedagogy and applies the *bel canto* principles to existing trumpet studies.

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35. Brian Frederiksen, *Arnold Jacobs: Song and Wind*, Edited by John Taylor (Gurnee IL: WindSong Press Limited, 1996).

36. Todd Miller, *Carved in Stone: The Life and Musical Legacy of Vincent DeRosa* (Fullerton CA: printed by author, 2009).

37. Malcolm Eugene Beauchamp, "The Application of *Bel Canto* Concepts and Principles to Trumpet Pedagogy and Performance," (Ph.D. diss. The Louisiana State University and Agricultural And Mechanical College, 1980).

In his dissertation entitled “Bowings for Brass: A Visualization Tool for Horn Players,”<sup>38</sup> Paul Stevens uses bowing concepts central to musicality in string playing as a visualization tool to help develop good musical rhetorical style for horn players. He includes the principles of tension and relaxation, the rhythmical hierarchy of a typical measure, the proper treatment of the up-beat (including the “up-beat bar”) and the correct way to end phrases.

Barbara Zumwalt Comelek, in her dissertation “Allusions to the Vocal Art in Selected Wind Instrument Pedagogical Sources (Brass, Woodwind)”<sup>39</sup> concludes that a very close relationship exists between the wind instrument and voice. She recognizes there are shared pedagogical theories of wind instruments and voice and a background in the study of voice and singing methods provides a desirable foundation for wind players.

Virginia M. Weichman Thompson’s dissertation, “A Comprehensive Performance Project In Horn Literature With An Essay Consisting Of A Comparison Of Selected Writings On Melodic Interpretation,”<sup>40</sup> is closely related to the present study in terms of her emphasis on melodic interpretation (based on the work of a number of authors including Philip Farkas, Donald Barra, and James Thurmond). The present study, however, focuses on “singing” through the horn, performing horn influenced by the *bel*

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38. Paul William Stevens, “Bowings for Brass: A Visualization Tool for Horn Players,” (D.M.A. diss. University of California, Los Angeles, 2000).

39. Barbara Kay Zumwalt Comelek, “Allusions to the Vocal Art in Selected Wind Instrument Pedagogical Sources (Brass, Woodwind),” (D.A. diss., Ball State University, 1985).

40. Virginia M. Weichman Thompson, “A Comprehensive Performance Project in Horn Literature with an Essay Consisting of a Comparison of Selected Writings on Melodic Interpretation,” (D.M. diss., University of Iowa, 1987).

*canto* singing style, and especially by its application to nineteenth-century horn repertoire. While Thompson wisely includes unedited transcriptions of art songs for winds to allow the reader to apply interpretive ideas, the present study includes *bel canto* repertoire for horn and piano. Thompson examines melodic interpretation, but the present study is focused on developing the techniques necessary to achieve the artistry needed to render expressive melody.

Dr. Gregory Burton, in his article *Teaching Beginning Brass Players: A Singing Approach*<sup>41</sup> fosters the association of singing with production of a beautiful tone as a starting point. He promotes early development of a beautiful sound in teaching beginning brass players. Finally, Laurie S. Shelton, in her article “Singing on the Horn: A Selective Survey of Chamber Music for Voice, Horn and Keyboard” remarks that, “A comparison of horn and vocal technique reveals amazing similarities between the two.”<sup>42</sup> Charles Davis, in his article “*Bel Canto* and Brass Playing,”<sup>43</sup> notes the importance of establishing fundamentals of technique especially related to beauty of tone in the *bel canto* vocal school and the correlation between this and the teaching of successful brass pedagogues today.

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41. Gregory J. Burton, “Teaching Beginning Brass Players: A Singing Approach,” [article online] (Accessed 30 October 2004. Available from: [http://hrsbstaff.ednet.ns.ca/fergusm6/tips/conductors/teaching\\_beg\\_brass.htm](http://hrsbstaff.ednet.ns.ca/fergusm6/tips/conductors/teaching_beg_brass.htm))

42. Laurie S. Shelton, “Singing on the Horn: A Selective Survey of Chamber Music for Voice, Horn, and Keyboard,” *Journal of Singing* 54, no.3 (Jan-Feb 1998): 25-39, 25.

43. Charles Davis, “*Bel Canto* and Brass Playing.” [article online] From *The Brass Player* (Summer 1994). Accessed 30 October 2004. Available from: <http://www.charlescolin.com/nybc/belcanto.htm>

## *Bel Canto*

Treatises on the history and practice of *bel canto* singing include Weldon Whitlock's *Bel Canto for the Twentieth Century*,<sup>44</sup> which addresses the fundamental techniques included in the pedagogical *bel canto* vocal tradition. He includes the subjects of pure vowels, pure *legato* and the unbroken phrase. He includes selected vocalises in his Appendix I. I believe that there are direct parallels to these techniques in achieving a singing style on the horn. Christine Gerstein, in her document entitled "Early Musical Training in *Bel Canto* Vocal Technique: A Brief History and Philosophy,"<sup>45</sup> offers an explanation of the origins of *bel canto* vocal style and describes the pedagogical methods used to achieve *bel canto* ideals in singing. The most thorough contemporary treatment of the history and pedagogy of the *bel canto* is James Stark's book, *Bel Canto: A History of Vocal Pedagogy*.<sup>46</sup> His explanations of pedagogical details and navigation through the potentially confusing historical concepts and terminology are invaluable. Together with the books by Cornelius Reid, Stark's work has been most helpful in developing an understanding of the *bel canto*. *Bel Canto Principles and Practices*,<sup>47</sup> by Cornelius L. Reid, includes an explanation of the *bel canto* ideal sound, basic principles of *bel canto*, thought process, breath control, etc. Each of the *bel canto* principles may be used in

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44. Weldon Whitlock, *Bel Canto for the Twentieth Century* (Champaign, IL: Pro Musica Press, 1968).

45. Christine W. Gerstein, "Early Musical Training in *Bel Canto* Vocal Technique: A Brief History and Philosophy," paper prepared for the Hofstra University library, 1994, ERIC doc. ED 393758.

46. James Stark, *Bel Canto: A History of Vocal Pedagogy* (Toronto: University of Toronto Press, 1999. Paperback reprint, 2003).

47. Cornelius L. Reid, *Bel Canto Principles and Practices* (New York: Coleman-Ross Company, Inc., 1950).

direct relationship to lyrical playing on the horn. G.B. Lamperti, in his treatise *The Technics of Bel Canto*,<sup>48</sup> addresses *bel canto* fundamentals such as breathing, tone, registration, and vocal agility which correlate with similar fundamental techniques on horn. *The Art of Singing*,<sup>49</sup> by Francesco Lamperti, additionally comments on the emission of the voice (beginning a note), *portamento*, *legato* and pronunciation, all of which have a parallel technique for “singing” on the horn. Manuel del Pòpulo Vicente Rodríguez García, renowned early nineteenth-century *bel canto* tenor and master teacher, addresses vocal technique in a detailed approach to almost every aspect of *bel canto* in his treatise *Hints on Singing*.<sup>50</sup> It is a comprehensive treatise on the art of *bel canto* singing, including: note initiation, pure *legato* and vocal registration. García’s daughter, mezzo-soprano Pauline Viardot, taught at the Paris *Conservatoire* and published a vocal method, *An Hour of Study*,<sup>51</sup> which includes practical exercises following a sound pedagogical sequence. These treatises reveal procedures used by the early nineteenth-century masters to cultivate the singing voice.

Many books explore approaches to singing technique, such as *Developing Voices*,<sup>52</sup> by William Vennard, which provides an outline of comparative vocal pedagogy and notes on recordings which he provides as a tool for learning. Articles, such as

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48. G. B. Lamperti, *The Technics of Bel Canto*, translated by Theodore Baker (New York: G. Schirmer, 1905).

49. Francesco Lamperti, *The Art of Singing* (New York: G. Schirmer, 1890).

50. Manuel del Pòpulo Vicente Rodríguez García, *Hints on Singing*, new & revised edition, translated by Beata García (London: E. Ascherberg & Co., 1894).

51. Viardot, Pauline. *An Hour of Study* (New York: G. Schirmer, n.d.).

52. William Vennard, *Developing Voices* (New York: Carl Fischer, Inc., 1973).

“Singing: A Comparative Analysis,”<sup>53</sup> by John Collins, examine the teaching concepts and practices of voice teachers. Collins compares nineteenth-century European with contemporary New York voice teachers. He includes the concepts of breathing, vibration, resonance, vowel formation, the tongue, high notes and a free-flowing versus heavy approach to vocal technique.

*Bel canto* methods, such as Mathilde Marchesi’s *Bel Canto: A Theoretical & Practical Vocal Method*,<sup>54</sup> give a sound pedagogical approach to the fundamentals of *bel canto* singing. Marchesi includes explanations of technique, provides simple graded exercises to practice the techniques, then provides actual repertoire to practice. This is a thorough, effective approach to pedagogy, which is a useful resource in developing an effective approach to playing in a lyrical *bel canto* style on horn. Other *bel canto*-inspired vocal methods, such as D. A. Clippinger’s *The Clippinger Class-Method of Voice Culture*,<sup>55</sup> William Shakespeare’s *The Art of Singing*,<sup>56</sup> and Estelle Liebling’s *The Estelle Liebling Vocal Course for Coloratura Soprano, Lyric Soprano and Dramatic Soprano*,<sup>57</sup> present a concise approach to vocal pedagogy that reinforces the importance of listening, freedom and lack of tension in tone production, artistic musical ideas and beauty of

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53. John C. Collins, “Singing: A Comparative Analysis,” *NATS [National Association of Teachers of Singing] Bulletin, USA* 25, nos. 3-4 (February, May 1969): 32-37; 12-19.

54. Mathilde Marchesi, *Bel Canto: A Theoretical and Practical Vocal Method* (N.d.; reprint, New York: Dover Publications Inc., 1970).

55. D. A. Clippinger, *The Clippinger Class-Method of Voice Culture* (Bryn Mawr, PA: Oliver Ditson Company/Theodore Presser, 1932).

56. William Shakespeare, *The Art of Singing* (Bryn Mawr, PA: Oliver Ditson Co., 1898).

57. Liebling, Estelle. *The Estelle Liebling Vocal Course for Coloratura Soprano, Lyric Soprano and Dramatic Soprano*, edited by Bernard Whitefield (Toronto: Chappell & Co., 1956).

sound. These elements are also fundamental to performing artistically in the *bel canto* style on the horn.

### Musical Expression

Patrik Juslin, in his dissertation “Five Facets of Musical Expression: a Psychologist’s Perspective on Music Performance,”<sup>58</sup> suggests that musical expression consists of five primary components including musical structure, emotional expression, random variations, motion principles and stylistic unexpectedness. Psychological studies, such as Christopher Johnson’s article “Musicians’ and Nonmusicians’ Assessment of Perceived *Rubato* in Musical Performance,”<sup>59</sup> evaluate the nature of perception in the listening experience. In the 2011 article, “Perception of Emotional Expression in Musical Performance,”<sup>60</sup> Anjali Bhatara, et al, “explored the relationship between acoustic parameters of a performance (timing and amplitude variation) and psychological parameters (subjective ratings of emotional expressivity),”<sup>61</sup> to conclude that variations of tempo and loudness are most clearly linked to the communication of emotional expressivity in a musical performance.

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58. Patrik N. Juslin, “The Five Facets of Musical Expression: A Psychologist's Perspective on Music Performance,” *Psychology of Music* 31, no.3 (July 2003): 273-302.

59. Christopher Johnson, “Musicians’ and Nonmusicians’ Assessment of Perceived *Rubato* in Musical Performance,” *Journal of Research in Music Education* 44 (1996): 84-96.

60. Anjali Bhatara, Anna K. Tirovolas, Lilu Marie Dunn, Bianca Levy, and Daniel J. Levitin, “Perception of Emotional Expression in Musical Performance,” *Journal of Experimental Psychology: Human Perception and Performance* 37 no. 3 (2011): 921-934.

61. *Ibid.*, 921.

David Hays, in his dissertation “The *Messa Di Voce* as an Ornament in the String Playing of the Seventeenth, Eighteenth and Nineteenth Centuries”<sup>62</sup> explores the *messa di voce*, or swell on a single note, as an ornament of expression used by both singers and instrumentalists. The swell was used on long note exercises with the purpose of gaining the control necessary to perform with an appropriate degree of musical nuance and expression.

In his dissertation “Mathis Lussy’s Theory of Rhythm as a Basis for a Theory of Expressive Performance (Switzerland),”<sup>63</sup> Mine Dogantan reconstructs and interprets Mathis Lussy’s theory of rhythm and expressive performance. Lussy’s theory, based on the principle of action-repose, claimed that the source of expression lies in unexpected metric, rhythmic and tonal events. Dogantan explores connections with Lussy’s predecessors as well as recent theories of rhythm and of the psychology of expressive performance.

Burton Kaplan, in his article “Musical Expression Motivates: Integrating Technique and Musical Expression from the Start,” observes,

I have found that students at each level of technical control are remarkably capable of making music in an insightful and expressive way...their sense of fulfillment in expressing musical feelings within recognizable musical structures makes their practicing interesting enough to motivate them to practice a lot, and they develop a confident performance technique.<sup>64</sup>

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62. David Hays, “The *Messa Di Voce* as an Ornament in the String Playing of the Seventeenth, Eighteenth and Nineteenth Centuries,” (D.M. diss., Northwestern University, 2000).

63. Dogantan, Mine. “Mathis Lussy’s Theory of Rhythm as a Basis for a Theory of Expressive Performance (Switzerland),” (Ph.D. diss., Columbia University, 1997).

64. Burton Kaplan, “Musical Expression Motivates: Integrating Technique and Musical Expression from the Start,” *The American Music Teacher* 53, no. 2 (Oct./Nov. 2003): 31-32.

In her article “Going Through a ‘Phrase’: Developing Musicality in Young Piano Students by Singing,”<sup>65</sup> Yun-Pai Hsu discusses the relationship of singing as a foundation to developing musicianship and specific benefits of a singing foundation. These benefits include: breathing, memorization, technique, keeping a beat and developing musicality.

James Morgan Thurmond, in his book, *Note Grouping: A Method for Achieving Expression and Style in Musical Performance*,<sup>66</sup> provides the most thorough pedagogical approach to phrasing in print today. The concept he presents is based on cross-bar phrasing and is fundamental to interpreting a musical phrase.

There are compelling sources for information about embellishment of the *bel canto* repertoire, including Laure-Cinthie Damoreau’s *Classic Bel Canto Technique*<sup>67</sup> and Luigi Ricci’s *Variations, Cadenzas and Traditions for Voice*.<sup>68</sup> Both of these sources feature examples of cadenzas and short embellishments for the standard *bel canto* repertoire and are helpful in providing models for creating stylistically appropriate improvised embellishments. In addition, many early twentieth-century recordings of

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65. Yun-Pai Hsu, “Going Through a ‘Phrase’: Developing Musicality in Young Piano Students by Singing,” *The American Music Teacher* 49, no. 5 (April/May 2000): 30-32.

66. James Morgan Thurmond, *Note Grouping : A Method for Achieving Expression and Style in Musical Performance*, foreword by Weston H. Noble (Camp Hill, PA: JMT Publications, 1982).

67. Laure-Cinthie Damoreau, *Classic Bel Canto Technique*, new English translation and introduction by Victor Rangel-Ribeiro (Milano: G. Ricordi & Co., 1849; reprint, Mineola NY: Dover Publications, Inc., 1997).

68. Luigi Ricci, *Variations, Cadenzas and Traditions for Voice* (Milano: Ricordi, 1937).

singers trained in the *bel canto* style demonstrate the practice of embellishment and musical expression in the tradition of the *bel canto*.<sup>69</sup>

## Methodology

There are two sections in each of Chapters Two through Four. In each of these chapters, the first section, “Singing,” explains and illustrates the aspects of a particular *bel canto* singing technique. The second section, “Horn Playing,” applies the technique to cultivate horn playing with a *bel canto* singing style. These aspects include a perfect *legato* production from note to note throughout the full range (Chapter Two), tonal evenness producing a beautiful tone quality throughout the full range (Chapter Three), and an agile and flexible delivery using a light mechanism (Chapter Four). In Chapter Five, musical expression is treated together for both singing and horn playing through the use of *rubato*, dynamics, and embellishment. Chapter Six of this study consists of *bel canto*-informed performer’s guides to the selected horn repertoire: Saverio Raffaele Mercadante, *Concerto for Horn*; Gioachino Rossini, *Introduction, Andante et Allegro*; and Michael Balfe, *Cantata: Sempre pensoso e torbido*.

The techniques addressed in the “Singing” sections are based on the pedagogical approach of renowned *bel canto* teachers including Manuel del P. V. R. García, his son Manuel Patricio Rodríguez García, Mathilde Marchesi (student of Manuel P.R. García), Francesco Lamperti, William Shakespeare (tenor and student of Francesco Lamperti), and

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69. Airlie Jane Kirkham, “An Aural Analysis of *Bel Canto*: Traditions and Interpretations as Preserved Through Selected Sound Recordings.” (Master’s thesis, University of Adelaide, 2010).

Lilli Lehmann. The “Horn Playing” sections draw parallels between *bel canto* singing pedagogy and the pedagogical approach of fine brass teachers. These teachers include J.B. Arban, James Burden, Herbert L. Clarke, Vincent DeRosa, Philip Farkas, Fred Fox, Claude Gordon, and Arnold Jacobs. The resulting technical approach for horn based on *bel canto* technique is for the purpose of developing the ability to play artistically after the manner of the original *bel canto* singers. Horn exercises based on *bel canto* principles are given as needed, to illustrate the technical/musical content presented. The exercises include: vocalises from *bel canto* teachers, exercises from brass teachers and original exercises designed to demonstrate *bel canto* technique development for horn.

## CHAPTER II

*LEGATO*

## Singing

*Bel canto* singing is notable for the development of masterful technique and the requisite musical freedom that results. Perfect *legato* production is the ability to sing smoothly from note to note, without scooping or inadvertently emphasizing certain pitches. As one of the defining characteristics of *bel canto* singing, the technical ability to sing *legato* produces a beautiful lyrical style. William Shakespeare (1849-1931), tenor, author and student of the famous *bel canto* teacher Francesco Lamperti, beautifully expressed the union of expert singing technique with *legato* style:

When singing properly the voice passes instantaneously from one note to the other, as the will directs; no impediment hinders the action of the tuning-muscles; the notes seem to join and yet are “clean cut,” as it were, “pearls on a string”—a favourite expression of the old Italian masters, who called this manner of joining the notes the *legato* style.<sup>70</sup>

Accomplished singing technique, with purity of sound and connectedness between notes, produces the perfect *legato* of *bel canto* singing.

The development of perfect *bel canto legato* begins with beautiful sound on one note. Beautiful sound continues as the air moves forward in a continuous stream connecting one note to another, then to another, etc. To develop these "pearls on a

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70. William Shakespeare, *The Art of Singing* (Bryn Mawr, PA: Oliver Ditson Co., 1898), 29.

string,"<sup>71</sup> as *bel canto* masters expressed so beautifully, breath control is essential. One must develop steady air to maintain a flowing connection between notes without a hint of detachment, or scooping. It has been said, "He who knows how to breathe knows how to sing,"<sup>72</sup> and "The art of singing is the voice above the breath."<sup>73</sup> Manuel García stated, "No persons can ever become accomplished singers, until they possess entire control over the breath—the very element of sound."<sup>74</sup>

Air, then, essential to beautiful *legato*, must be breathed in deeply and let out slowly in a controlled manner. Believing that "breath-control is the foundation of all vocal study,"<sup>75</sup> *bel canto* masters encouraged practice of breath exercises alone. *Bel canto* master, and son of Francesco, G.B. Lamperti described the inspiration and expiration of air in this manner, "The air drawn in (so to speak) in the form of a globular mass is now to be very gently and gradually expelled."<sup>76</sup> He goes on to explain, "The Italian expression *filare il tuono*, "to spin out the tone," most aptly characterizes the required mode of expiration, which must proceed as naturally and unconstrainedly as the preceding inspiration."<sup>77</sup> Prior to the practice of singing, simple breathing exercises were

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71. William Shakespeare, *The Art of Singing* (Bryn Mawr, PA: Oliver Ditson Co., 1898), 29.

72. *Ibid.*, 24.

73. *Ibid.*

74. Manuel García, *Treatise on the Art of Singing*. Edited by Albert García (London: Leonard & Co., 1924), 6.

75. G. B. Lamperti, *The Technics of Bel Canto*, trans. Theodore Baker (New York: G. Schirmer, 1905), 9.

76. *Ibid.*

77. *Ibid.*

recommended for the purpose of strengthening breath power. García affirmed, “submitting the lungs to a particular exercise, their power and elasticity will greatly increase.”<sup>78</sup> He suggested the following exercise,<sup>79</sup> musical example 2.1:

Musical Example 2.1. Breathing exercise no. 1

♩ = 60

inhale exhale slowly & gently

When practicing the exercise in musical example 2.1, García goes on to suggest, “the gentle inspirations and expirations will be more equally effected by nearly closing the mouth, in such a way as to leave only a very slight aperture for the passage of air.”<sup>80</sup>

Another breathing exercise he suggested is musical example 2.2.

Musical Example 2.2. Breathing exercise no. 2

♩ = 60

inhale fully hold for as long as possible then, exhale completely

78. Manuel García, *Treatise on the Art of Singing*, edited by Albert García (London: Leonard & Co., 1924), 6.

79. Musical examples 2.1 through 2.4 are realizations of prose descriptions of exercises in Manuel García, *Treatise on the Art of Singing*, edited by Albert García (London: Leonard & Co., 1924), 6.

80. Manuel García, *Treatise on the Art of Singing*, edited by Albert García (London: Leonard & Co., 1924), 6.

According to García, the purpose of breathing exercises is to “acquire steadiness of voice . . . the breath influences the mode or character of vocal execution; being capable of rendering it either steady or vacillating, connected or unconnected, powerful or feeble, expressive or the reverse.”<sup>81</sup> Breathing exercises, then, assist in the development of steady air which supports a beautiful *legato* when it is properly controlled.

After practicing breathing exercises of inspiration and expiration, one can begin singing. In the same manner as the breath inspiration exercise, a relaxed full breath is taken in prior to singing, and while singing, the air is gradually released in a relaxed, controlled manner. The spinning tone of a *bel canto* singer requires steady air pressure during tone-production (expiration). Steady breath support used to maintain air pressure is referred to as *appoggio*. James Stark defines and explains *appoggio* as applied to singing:

The Italian word *appoggiare* means ‘to lean.’ I believe that in singing, this term has two specific applications. The first refers to the muscular antagonism between the inspiratory and expiratory breathing muscles during singing. This is often described by singers as a feeling of ‘bearing down’ with the diaphragm. The second refers to the role of the larynx in ‘holding back,’ or ‘damming’ the breath by means of glottal resistance, and by the intentional lowering of the larynx against the upward-bearing pressure of the breath.<sup>82</sup>

*Bel canto* master G. B. Lamperti comments on the necessity of controlled air, “With insufficient pressure, the tone lacks in steadiness (*appoggio*; that is, the steady air-

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81. Ibid.

82. James Stark, *Bel Canto: A History of Vocal Pedagogy* (Toronto: University of Toronto Press, 1999. Paperback reprint, 2003), 92-93.

pressure on the vocal cords during tone-production). Higher breath-pressure presupposes deeper inspiration. Each and every tone must have steady support!”<sup>83</sup> Support for the breath, or the *appoggio*, is “afforded to the voice by the muscles of the chest, especially the diaphragm, acting upon the air contained in the lungs.”<sup>84</sup> When one sings *appoggiata*, it “is meant that all notes, from the lowest to the highest, are produced by a column of air over which the singer has perfect command, by holding back the breath, and not permitting more air than is absolutely necessary for the formation of the note to escape from the lungs.”<sup>85</sup>

Initial sound produced by the voice should commence with a clean attack and beautiful sound. To do this, one must begin singing while depending on the breath and staying physically relaxed. When relaxed, the voice can produce sound without tension. Tension not only affects the sound being emitted, but also affects intonation. Francesco Lamperti instructed the attack of a note to be, “with the greatest possible clearness, with a pure and correct intonation.”<sup>86</sup> Lamperti goes on to suggest practicing the attack “cleanly with the full voice, and without forcing.”<sup>87</sup> A relaxed onset to a note entrance, both physically and vocally, is very important. Lamperti explains the necessity of a relaxed approach, emphasizing the importance of strength in the steadiness of airstream, “It is of

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83. Giovanni Battista Lamperti, *The Technics of Bel Canto*, trans. Theodore Baker (New York: G. Schirmer, 1905), 9.

84. *Ibid.*, 10.

85. *Ibid.*, 18.

86. Francesco Lamperti, *Guida Teorico-Pratica-Elementare per lo Studio del Canto*, translated by J.C. Griffith (1864; New York: G. Schirmer, 1890), 8.

87. *Ibid.*

the very utmost importance that the voice emitted should be less in force than the force of breath which supports it; this will render the singing more natural, even and spontaneous, and will also convey to the audience a feeling of security and pleasure.”<sup>88</sup> To sing with ease, he recommends, “breathe in as large a quantity of air as the lungs can contain, avoiding noises and all movements of the figure, especially raising the shoulders, and strive to give always to his singing a semblance of ease and elegance.”<sup>89</sup> When the airstream is steady and dependable it will protect the voice, allowing it to sound relaxed and natural.

Italian masters introduced exercises to practice the onset of vocal sound. García recommended beginning in the middle register because these notes “are generally found the easiest to produce; and if well managed, the sound will come out pure and ringing.”<sup>90</sup> The first exercise he recommends is demonstrated in musical example 2.3 and should be sung with the Italian vowel “A,” in English “Ah.”

#### Musical Example 2.3. Onset exercise




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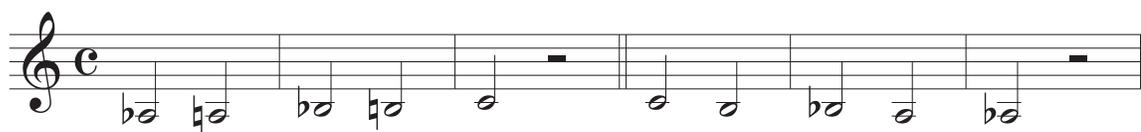
88. Francesco Lamperti, *Guida Teorico-Pratica-Elementare per lo Studio del Canto*, translated by J.C. Griffith (1864; New York: G. Schirmer, 1890), 9-10.

89. *Ibid.*, 9.

90. Manuel García, *Treatise on the Art of Singing*, edited by Albert García (London: Leonard & Co., 1924), 7.

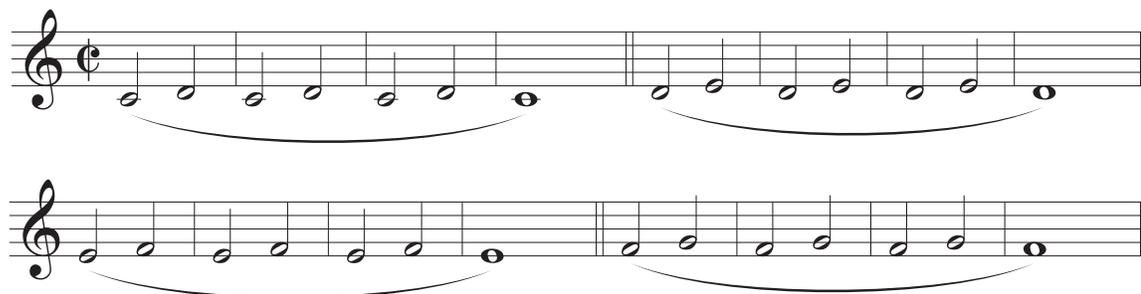
Each tone should “not be held long, but be repeated several times in succession. The pupil may then ascend by half-tones.”<sup>91</sup> Musical example 2.4 ascends chromatically.

Musical Example 2.4. Chromatic scale exercise



To develop steady air in support of a beautiful *legato*, elementary scale exercises were introduced to the *bel canto* pupil. Scalar exercises established breath control, sound production and endurance, serving to develop the skill of singing *legato*. They also served to protect a singer from injury by developing solid technique and a relaxed tone production. Because of this, many *bel canto* singers enjoyed unusually long singing careers due, at least in part, to firmly established vocal technique. *Legato* exercises began with two connected notes and expanded from portions of a scale to complete scales.

Musical Example 2.5. Two-note scale exercise (Lamperti)




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91. Ibid.

Musical example 2.5 is the introductory two-note scale exercise by G. B. Lamperti designed to develop smooth *legato*. He instructs, "The following tone must be bound closely to the first. . .do not sing the tones detached!"<sup>92</sup> He comments further, "observe a strict *legato*, a smooth and unbroken passage from one tone to the other. The breathing must not be interrupted between the tones, but flow on evenly as if a single tone were to be sung."<sup>93</sup> Following exercises of two notes, additional scalar exercises were introduced to expand the range of *legato* connection. Musical examples 2.6 through 2.9 are four such progressive scale exercises recommended by Marchesi. For these exercises, she instructs the pupil to "open the mouth naturally, keep it quite still, and draw in breath slowly; then attack the sounds neatly on the broad Italian vowel *A* (*ah*). . .avoiding all jerkiness as well as effort."<sup>94</sup> When introducing the scale exercises, she also comments, "The pupil should not at first attempt to sing the complete scale, but begin by practicing exercises of two, three and four notes, etc., otherwise there is a risk of never succeeding in any kind of passage."<sup>95</sup>

Musical Example 2.6. Scale Exercise, two pitches (Marchesi)




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92. G. B. Lamperti, *The Technics of Bel Canto*, trans. Theodore Baker (New York: G. Schirmer, 1905). 11.

93. *Ibid.*, 12.

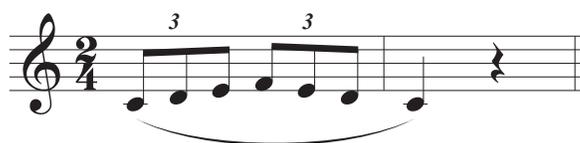
94. Mathilde Marchesi, *Bel Canto: A Theoretical and Practical Vocal Method* (n.d. reprint, New York: Dover Publications Inc., 1970), 1.

95. *Ibid.*, 6.

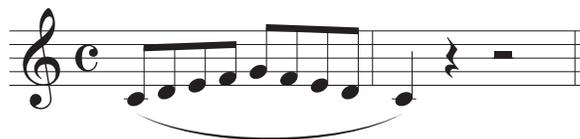
Musical Example 2.7. Scale Exercise, three pitches (Marchesi)



Musical Example 2.8. Scale Exercise, triplets (Marchesi)



Musical Example 2.9. Scale Exercise, eighths (Marchesi)



Early *bel canto* masters emphasized tone quality in singing. Tone quality was developed through extensive practice of many exercises and vocalises and was the result of correct vocal technique. Articulation, for a singer, is the treatment of consonants and beginnings of notes. As one progressed from exercises to song, words became critical and the articulation of words, known as diction, was important to intelligibility of the text. Tone quality, however, needed to be maintained since without beautiful tone quality there is no *bel canto*.

Since beautiful *legato* depends on a sustained tone with purity of sound, beauty of tone needs to be protected from over-emphasis on diction. When diction is given primary

focus, accurate intonation and purity of vowels (both necessary for beautiful *bel canto* tone) are jeopardized. *Bel canto* scholar Cornelius Reid describes the early Italian's concept of tone quality, and explains the danger of over-articulation. He states, "A tone was considered beautiful when 'pure,' and 'purity of intonation' was known to be inseparable from 'pronouncing the vowel distinctly.'"96 He goes on to explain that the misinterpretation of 'pronouncing the vowel distinctly' has resulted in over-enunciation of consonants, namely that, "Instead of treating the articulatory processes and the physical act of producing tone as two separate units of the whole, many teachers mistakenly believe that the natural consequence of clean articulation is firm, round tones of beautiful quality."97

Over-emphasis on words, specifically consonants, disrupts air flow and connection between notes compromising beauty of tone. Instead, Reid emphasizes, "everything that is basic in tone production, namely, *legato* singing of full, round tones of pure vowel quality, is too often sacrificed to 'mouthing' the words and overemphasizing the articulation."98 The round tones with pure vowels that Reid describes is produced through well-placed vowels and good vocal technique, not by excessively articulating words.

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96. Cornelius L. Reid, *Bel Canto Principles and Practices* (New York: Coleman-Ross Company, Inc., 1950), 42.

97. *Ibid.*

98. *Ibid.*, 43.

Over-articulation of words, sacrificing tone quality in the process, can be compared to the heavy articulation of horn players that produces percussive sound rather than beautiful horn tone. In essence, a singer and horn player both create beautiful tone by focusing on pure vowel formation and accurate intonation, *not* in spitting out the note, as it were, in an overly-articulated manner. Consonants for a singer, and tonguing for a horn player, serve to define the beginning of beautiful tone, but should never take priority over it. Just as a singer will practice vocalizing with the syllable “ah,” a horn player can practice beginning a phrase without using the tongue. In both cases the beautiful sound emitted should then transfer to a passage begun with consonants, or for a horn player, with the tongue.

To sing with a beautiful sound, one must begin with a beautiful sound from the onset of a phrase. After practicing exercises, often using the syllable “ah,” singers progress to songs. When using words rather than syllables, phrases beginning with a consonant need special care to emit beautiful sound. The first word must be clearly emitted with clean articulation. The quality of sound is effected through clarity of articulation. Commenting on the effect of poor articulation in singing, Francesco Lamperti stated “Bad articulation is apt to produce hardness and harshness.”<sup>99</sup> He further commented on the effect of a faulty emission of the voice saying “it detracts from the purity and elegance of the pronunciation.”<sup>100</sup> To guard against defects in articulation,

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99. Francesco Lamperti, *Guida Teorico-Pratica-Elementare per lo Studio del Canto*, translated by J.C. Griffith (1864; New York: G. Schirmer, 1890), 15.

100. *Ibid.*, 16.

Lamperti suggests one should “support the notes well with the breath, and strive to sing the vowels on the various notes as pure as possible.”<sup>101</sup>

*Bel canto* singers begin a tone with good diction, using the consonant to simply define the note beginning, but the actual source of beautiful sound is the air. Most often the syllable “ah” is used, especially in the middle register. For a horn player, the tongue plays the role of the consonant: to define the air as the note begins. *Bel canto* singers practiced the “emission” of notes, and horn players can learn from them. Timing, including the coordination of breath, proper tongue placement, and a mental concept of the sound one is preparing to produce must be perfect.

After taking a relaxed breath, *bel canto* singers were encouraged to begin a note with precision using a technique referred to as *coup de glotte*, meaning literally “stroke of the glottis.” This was an expression first used by the great singer and teacher, Manuel García the elder and continued by his pupil, Mathilde Marchesi. The purpose of the technique was to prevent a breathy tone quality and to produce a clean attack. This expression has been controversial among singers and teachers perhaps mostly as the result of misinterpretation. The *Oxford Dictionary of Music* defines *coup de glotte* in the following way:

Blow of the glottis. In v. prod., a method, thought by many to be harmful, of attacking a note by closing the false vocal cords (2 membranes above the true vocal cords) and quickly opening them to release the tone. If the release is too abrupt, a cough will be the result.<sup>102</sup>

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101. Ibid.

102. *The Oxford Dictionary of Music*, 2nd ed. rev.. *Oxford Music Online*, “*coup de glotte*,” accessed November 9, 2012, <http://www.oxfordmusiconline.com/subscriber/article/opr/t237/e2505>

This reference to an abrupt release resulting in a cough is the result of air pressure built up prior to the release of air. This vocal attack is widely acknowledged as destructive to the vocal cords and is assiduously avoided by professional singers. García clarifies in his *Hints on Singing*, however, that,

The stroke of the glottis is somewhat similar to the cough, though differing essentially in that it needs only the *delicate action*<sup>103</sup> of the lips and not the impulse of the air.<sup>104</sup>

He further clarifies in his footnote,

To the student it is meant to describe a physical act of which there should be merely a mental cognizance, not an actual physical sensation. The “articulation” which gives the “precise and clean start to a sound” is not *felt* in the throat (*i.e.*, the larynx) of the singer.<sup>105</sup>

The introduction of *coup de glotte* was his means of describing how to achieve a proper vocal attack. García first explains how the glottis produces sounds:

The two lips of the glottis, which are separated in the act of breathing, meet when preparing to produce a sound, and close the passage with the degree of energy demanded by the nature of the sound and the power with which it is to be emitted. Then, being pushed upwards by the air, they give way and allow a portion of air to escape, but immediately return to their original contact, and recommence the action. These intermittent emissions or explosions of air, when regular and rapid enough, form a sound.<sup>106</sup>

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103. (emphasis mine)

104. Manuel del Pòpulo Vicente Rodríguez García, *Hints on Singing*, rev. ed., trans. Beata García (London: E. Ascherberg & Co., 1894), 13.

105. *Ibid.*

106. *Ibid.*, 6-7.

When asked if he could name any action that illustrates this, he responded by saying, “The action of the lips of a horn player.”<sup>107</sup> The action of two lips of the vocal sound-producing glottis and two lips of a horn player are virtually the same. In preparation, then, for a singer to emit a sound after breathing, García encouraged *coup de glotte* to produce “the neat articulation of the glottis that gives a precise and clean start to a sound.”<sup>108</sup>

Exercises initially begun with vowels alone train the voice to emit a lovely relaxed sound at the onset of a note. When singing with words, it is necessary to begin a note with beautiful sound whether it is begun with a consonant or a vowel.

It is important for the singer to connect notes and guard against detachment of any kind to attain a beautiful *legato*. Equally important is the necessity of notes to move clearly from one to the next when singing *legato*. Intervening notes, or quarter tones, should not be heard in a beautiful *bel canto legato*. Only when executing the ornament *portamento* should a singer allow a slurring effect to be heard.

*Legato* is sought after and trained for by singers and remains one of the distinctive characteristics of *bel canto* singing. *Bel canto* singer and pedagogue Francesco Lamperti recognized the worth of mastering a beautiful *legato*: “The power of sustaining notes

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107. *Ibid.*, 7.

108. *Hints on Singing*, 13.

being one of the peculiar attributes of the human voice, the pupil should make *Legato* singing a special study. He who cannot sing *Legato* cannot sing well.”<sup>109</sup>

## Horn Playing

A beautiful *legato* is one of the most important qualities a horn player needs in order to play with a singing style. *Legato* is literally defined as: “in a manner that is smooth and connected (between the successive tones).”<sup>110</sup> Renowned horn player and pedagogue Philip Farkas affirmed the importance of *legato* in a singing style:

One of the most beautiful characteristics of the horn is its ability to sing. A well-controlled *legato* is the most important factor in making any brass instrument sing . . . As slurs are only possible because the lips are already vibrating it behooves us to make very sure that they do vibrate properly and strongly between slurred notes. If the vibration stops, even for an instant, during the transition from note to note, the note slurred to will not speak for a fraction of a second and the *legato* quality will be impaired, if not destroyed. Therefore, if we are to get the utmost beauty of *legato*, it is important to consciously vibrate the lips between notes. As we know, the lips are vibrated by the air column, so it is obvious that a good *legato* requires that the air flow steadily and continuously between notes.<sup>111</sup>

Traditionally, prior to singing music with words, *bel canto* singers practiced many elementary and progressive exercises to develop the necessary technique for singing a beautiful *legato*. Presented here are seven steps designed to facilitate cultivation of a *bel*

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109. Francesco Lamperti, *Guida Teorico-Pratica-Elementare per lo Studio del Canto*, translated by J.C. Griffith (1864; New York: G. Schirmer, 1890), 13.

110. Merriam-Webster Online, s.v. “*legato*,” accessed November 09, 2012, <http://www.merriam-webster.com/dictionary/legato>

111. Philip Farkas, *The Art of French Horn Playing: A Treatise on the Problems and Techniques of French Horn Playing* (Evanston, Il.: Summy-Birchard, 1956), 46.

*canto legato* on the horn. Each step includes an explanation with a developmental exercise.

*1. Drawing the breath deeply: breathing exercises prior to playing.* For smooth and connected playing, a *bel canto* horn player must first learn to take in a sufficient amount of air, followed by gradual, controlled expiration. Simple deep breathing exercises can help accomplish this goal. Breathing exercises are most beneficial if initially practiced apart from the horn. It is then possible to focus solely on breathing, unconcerned about the technical aspects of playing the horn, *e.g.* fingering, articulation, or dynamics.

When practicing deep breathing, the horn player should maximize the intake of air and then follow it by a controlled release of air. When taking a breath, the throat is kept open as in speaking “oh.” Some people find it helpful to prepare to take the breath by closing the glottis in preparation to say “k” as in “koh.” This has the effect of both relaxing and opening the throat to enable a full breath. The rib cage can be felt expanding both in the front and the back. While the air is being taken in and then released, the player should keep the abdominal wall muscles firm and extended outward, but not so tense as to close the throat.

The following breathing exercise notated in musical example 2.10 can help to maximize air intake, increasing the speed at which one inhales. It also serves to regulate a controlled release of air. Set a metronome to the quarter note at 60 beats per minute. Prior to taking in air, exhale completely and then breathe in for 4 beats, and out for 5 beats.

Rest for 3 beats. While exhaling, one should be sure to keep the airstream steady. Next, breathe in for 3 beats, out for 6. Rest for 3 beats. Then in for 2 beats, out for 7, rest for 3. Finally, breathe in for one beat and out for 8 beats. The same amount of air should be taken in at each inhalation regardless of beats.

#### Musical Example 2.10. Preparatory Breathing Exercise



This exercise progresses from a four-beat inhalation to a typical one-beat breath. It helps one to develop control of air inhalation and exhalation and introduces the habit of inhaling over one beat.

In addition to simple breathing exercises done with a metronome, there are many practice tools that wind players use. A wide variety of breathing tools are used by respiratory therapists to help people with lung rehabilitation. Some of these tools were introduced to wind players by Arnold Jacobs, long-time tubist of the Chicago Symphony Orchestra and master teacher of wind instruments. One such tool is the *Voldyne*,<sup>112</sup> which serves to maximize use of full lung capacity. The *Voldyne* measures the amount of air inhaled and has two chambers, one measuring air volume and the other air pressure. Other tools encourage controlled intake and outflow of breath, such as the *Breath*

<sup>112</sup> Brian Frederiksen, *Arnold Jacobs: Song and Wind*, edited by John Taylor (Gurnee IL: WindSong Press Limited, 1996), 181.

*Builder*.<sup>113</sup> This device is used to feel the sensation of both inhalation and exhalation with the option of varying resistance while doing either. While further exploration of these is outside the scope of this study, using additional breathing tools may be helpful.

Exercises for the practice of inhalation and exhalation develop familiarity with good breathing technique followed by controlled, steady release of air. This practice then carries over to horn playing. Daily breathing exercises are, without question, an important habit to develop.

2. *Beginning of tone: legato entrance.* Starting a note with breath only is an effective way to develop an elegant and accurate note entrance. In a breath attack, use of the tongue is not employed—one simply breathes and plays. Breath attacks serve to refine the coordination of air release and lip vibration when beginning a note. They also develop the habit of good breath control at each entrance. Additionally, breath attacks produce a beautiful, relaxed sound due to the breath support required to begin with the air alone.

Therefore, after practicing a deep breathing exercise, a horn player should continue practicing with breath attacks on the instrument. Prior to beginning a note with a breath attack, the breath should seem to move in and out with a continual, uninterrupted motion. Before exhalation begins, keep the air moving and attempt to make the transition from inhalation to exhalation as smooth and natural as possible—one should experience the sensation of not stopping the movement of the air before exhalation. Simultaneous to

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113. *Ibid.*, 175.

the breath attack, abdominal support must be engaged as the note is begun. This produces a well-supported tone with a smooth entrance. Additionally, one must keep the cheek muscles at the corners of the mouth firm, and maintain only enough tension in the middle of the lips for them to vibrate freely. The embouchure should feel naturally relaxed.

Practice the exercise illustrated in musical example 2.11 with breath attacks only. Stay precisely in time, with the metronome set at 60 beats per minute, one quarter note per beat. Continue the given pattern, ascending and descending in equal intervals, until an octave is reached in both directions.

#### Musical Example 2.11. Breath Attack Exercise



Each note should begin in time, with a smooth (airy), not explosive (tongue-accented) attack and end with a precise release.

As dependable note entrances become routine through practiced repetition of breath attacks, the tongue can then be employed in a clean and smooth *legato* entrance. To produce a smooth *legato* entrance, widen the tip of the tongue on the attack as if saying “dah,” instead of “tah,” and keep the air flowing. To perfect a beautiful, well-coordinated *legato* entrance, one should practice note entrances with a “dah” tongue throughout the full range of the horn. One can practice a smooth *legato* tongue in musical example 2.11 and then proceed to musical example 2.12, an arpeggiated figure played on

the natural horn. Musical example 2.12 can be repeated in additional natural horn keys (see APPENDIX A for fingering series).

Musical Example 2.12. *Legato-tongued Arpeggio Exercise*



3. *Moving smoothly from note to note: continuous air and buzz.* As legato note entrances become secure, the next important *bel canto* technique to address is producing a smoothly-connected musical line from note to note. In addition to a controlled note entrance, a continuous buzz of the embouchure is critical to achieving smooth connections from note to note. Immediately following a *legato* note entrance, one must continue with steady, well-supported air that keeps the lip vibrating smoothly while connecting the notes that follow. Moving smoothly from note to note requires both continuous air and a continuous buzz.

Exercises that focus on continuous buzz and air between notes are important to the development of smooth *legato* technique. During the following exercises, move from note to note with the lips vibrating not just *on* the notes, but *between* them as well. This

will produce an unbroken *legato* that flows from note to note. One such exercise to achieve a smooth *legato* is shown in musical example 2.13.

Musical Example 2.13. Unbroken *Legato* Exercise

Begin with a *legato* (“dah”) tongue on the first note, and then keep the air moving and the buzz going through the following two notes. Listen carefully and try to remove any bumpiness between the pitches. This exercise can also be played without fingering the second note, using lip only. The lip aperture adjusts to bend the initial note either up or down, as printed. The aperture is strengthened at the same time breath control and connection between notes is developed. Whether fingered or lipped, one must always try to keep the buzz continuous and slide the sound (lip muscles and air) between the notes.

The solid technique of *bel canto* singing develops logically through graduated exercises. Traditional *bel canto* pedagogy includes the practice of exercises with small intervals, followed by the practice of increasingly larger intervals as each is mastered. This graduated approach prevents bad habits from forming, consequently preventing injury. Therefore, exercises beginning with a minor second and gradually progressing to

an octave or more help to develop good technique and skilled breath control, enabling one to produce a smooth *legato*. In addition, expanding-interval exercises are very good preparation for *bel canto* agility (addressed in a subsequent chapter).

Natural horn exercises are ideal for developing smooth *legato* technique, because they are based on the overtone series (see APPENDIX A—Natural overtone series for the F horn). Practicing the overtone series serves to develop good intonation due to the natural placement of the horn’s harmonics. It also develops the ability to distinguish between harmonics that lie close together, cultivating familiarity with the feel of each note. One such example of a natural horn exercise is shown in musical example 2.14.

Musical Example 2.14. Smooth *Legato* Natural Horn Exercise

One should listen carefully and work to achieve seamless slurs throughout each exercise, regardless of the interval being played. To do this, one must keep steady air, constant buzz, and correct tongue position. As intervals become larger, a change in the position of the middle of the tongue is more pronounced. The tongue position for the low register is the same as if one were saying the word “oh,” the middle register is “ah,” and the upper

register is “ee.” Changes in vowel placement according to register will be addressed further in Chapter IV. For additional natural horn fingerings, see APPENDIX A.

4. *Preparing for larger leaps: mouthpiece glissando buzz and air.* As intervals widen, continuous air and buzz are even more important for a smooth *legato*. To achieve this, practicing large intervals on the mouthpiece alone is a helpful exercise. One can begin a mouthpiece *glissando* with the interval of a third, and gradually increase the interval to an octave. A successful mouthpiece *glissando* will produce an audible smear between notes similar to a trombone player sliding between notes. To execute a clean slur on the mouthpiece, a swifter embouchure movement from the end of one note to the beginning of the next is required. This will minimize the *glissando* effect while availing oneself of the continuous use of air and smooth adjustment of the lip aperture. An excellent mouthpiece exercise is outlined in musical example 2.15.

Musical Example 2.15. Mouthpiece *Glissando* Exercise

Simply stated, the horn may be thought of as an amplifier of the buzzing lip, and as the mouthpiece *glissando* improves, the large-interval *legato* will also improve on the

horn. After developing flexibility with mouthpiece exercises, an excellent way to develop accurate and secure interval leaps on the horn is an exercise by Philip Farkas.<sup>114</sup>

Musical Example 2.16. Large-interval Exercise (Farkas)



In this exercise (musical example 2.16), the speed of intervening pitches within each octave increases with each measure. Coordinating the airspeed change with the lip change is critical to the fluidity of a slur. If the changes are made too slowly, a “*portamento*” slur will occur, with additional notes sounding in between the desired pitches. At times this may be the desired effect, but if a smooth, musical *legato* is the goal, the change between notes needs to be perfectly timed, yielding a clean, accurate, effortless slur.

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114. Philip Farkas, *The Art of French Horn Playing: A Treatise on the Problems and Techniques of French Horn Playing* (Evanston, IL: Summy-Birchard, 1956), 47.

5. *Air*: developing steady breath control to facilitate a smooth legato and sound.

Since control of the breath is needed to achieve a beautiful *legato* slur, exercises primarily intended to develop breath control should be practiced daily. The single most valuable exercise to improve breath control is long tone practice. There are many ways to practice long tones, but one of my preferred long tone exercises is illustrated in musical example 2.17.

Musical Example 2.17. Breath Control Long Tone Exercise—pattern 1

The first seven measures outline the pattern. Continue the same seven measure pattern with each subsequent measure, alternatively descending and ascending by half steps, tracing a chromatic scale. Another approach is using the same pattern with the order of pitches in musical example 2.18.

Musical Example 2.18. Breath Control Long Tone exercise—pattern 2

Breathe deeply one quarter rest before each note entrance. Begin each note with a clean attack and end with a clean release. There is silence beginning precisely on the first beat of each measure of rest. Always keep the air moving and the buzz persisting through every note. Maintain a centered, accurate pitch at every dynamic level.

6. *Dynamics: adjustments in breath/air and intensity.* A *bel canto* horn player needs to produce a beautiful and resonant sound at all dynamic levels. To develop this ability, one must practice at varied dynamic levels allowing for necessary embouchure adjustments. For a beautiful sound when playing softly the lip vibration must be small, and the small amount of air passing through the lips should be steady, well-focused air. The muscles at the corners of the mouth must be firm at all times and the aperture and oral cavity must be just the right size and shape to play the note with ease, small enough to vibrate, but large enough to resonate. To produce a beautiful resonant sound at a loud dynamic, the embouchure and mouth must adjust to accommodate the increase of air. Open up (or rather relax) the aperture slightly to allow for a larger lip vibration. In addition, alleviate some of the mouthpiece pressure to avoid trapping the soft lip's buzz in between the metal mouthpiece and enamel teeth. Think of blowing the horn away from the embouchure ("off the face"). Making these adjustments for loud dynamics can help prevent the sound from becoming pinched or brittle.

The previous long tone exercise (musical example 2.18) provides ample opportunity to practice making the necessary adjustments for both soft and loud dynamics. Listen for consistency in sound quality on every note. The *bel canto* ideal is a

relaxed, resonant sound. Close attention should be given to sound quality and intonation when changing pitch and dynamics. Long tones are a great exercise to develop consistency in sound on all pitches and at all dynamic levels.

7. *Seamless sound: developing evenness throughout entire range.* A successful *bel canto legato* requires a seamless connection between any two notes. Daily practice of scales can help to develop seamless slurs throughout the full range of the horn. Always maintain a fluid connection between notes. Begin with the chromatic scale, keeping the buzz constant at all times (especially between pitches). Do the following chromatic scale pattern outlining the tritone interval (musical example 2.19). Continue this pattern with the starting note ascending by half-steps.

Musical Example 2.19. Seamless Sound Chromatic Exercise

The image displays four staves of musical notation for a chromatic exercise in 3/4 time. Each staff begins with a chromatic scale of eighth notes, divided into two groups of six notes. The first group starts on a note with a sharp (#) and the second on a note with a flat (b). A double bar line with repeat dots follows. Above the second measure of the second group is a '3x' mark with a slur over it, indicating a triple repetition. This is followed by another chromatic scale of eighth notes, also divided into two groups of six notes. A final double bar line with repeat dots is followed by a single note with a '3x' mark and a slur, indicating a triple repetition of that note. The starting note for each staff ascends by half-steps from the first staff to the fourth.

One should begin this exercise as slowly as needed to play smoothly and accurately. As the fingers are able to move smoothly and steadily, the tempo can be gradually increased.

Proceed to major scales. One of my favorite patterns for practicing major and minor scales is given in musical example 2.20. This scale pattern can be repeated in all keys, both major and minor. One should practice them first slurred and then with a *legato* tongue, maintaining a consistent sound from the lowest note to the highest.

Musical Example 2.20. Seamless Sound Scale Exercise

The musical example consists of three staves. The first staff is in bass clef and shows a descending scale with slurs over groups of notes. The second staff continues the descending scale in bass clef, ending with 'etc. to ...' and a treble clef staff showing an ascending scale. The third staff continues the ascending scale in treble clef, ending with 'etc. to ...' and a bass clef staff showing a descending scale.

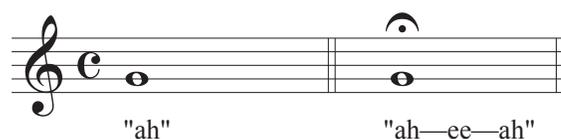
When slurring, remove any “bumpiness” between pitches by keeping the air moving and the buzz constantly sounding—not only on the *notes* but also, and especially, *between* them.

It is important to listen carefully to tone and to be honest about what sound quality is being produced. Special care must be taken to be physically relaxed and eliminate any stuffy or pinched sounds when they occur. To remedy a stuffy sound, one

must be sure the throat is open, and bring the front of the tongue *back* or *down* more.

Each note resonates best at a particular air speed. Since tongue placement affects the speed of air, it may help to experiment with front and middle tongue position to optimize placement for a specific note. Musical example 2.21 demonstrates experimentation on g<sup>1</sup>. First play g<sup>1</sup> with tongue placed in a normal position. Then, play g<sup>1</sup> again, but raise and lower the middle of the tongue while holding the note (as you would to change a spoken vowel).

Musical Example 2.21. Resonance experiment on g<sup>1</sup>



Notice the change in sound and the change in pitch as the tongue position changes. If the tongue is even the slightest bit too high or low, the sound quality is not as resonant or focused, respectively.

To eliminate a pinched sound, firm the corners of the embouchure, alleviate mouthpiece pressure, and allow the aperture to buzz freely. One must always keep an open throat with the airstream moving steadily from note to note and resist the temptation to clamp down on the aperture vertically. This subject is discussed at greater length in Chapter III.

A beautiful *legato* is one of the most important qualities a horn player needs in order to play with a singing style. From developing good breathing habits and fine breath

control, to maintaining a continuous buzz and practicing the mouthpiece *glissando*, horn players can improve *legato* technique. Then, learning to properly use the tongue for *legato* articulation, and being disciplined in practicing long tones, the ultimate goal of a fluid connection between notes may be achieved.

### CHAPTER III

#### TONAL EVENNESS

#### Singing

It was the goal of every *bel canto* singer to acquire a beautiful sound that possessed the ideal *bel canto* voice quality that is both rich and round, known as *chiaroscuro*. The famous late-nineteenth century singer and teacher Giovanni Battista Lamperti remarked on the necessity for singers to demonstrate this tonal ideal: “Although you may acquire a wide range of voice, you cannot modulate the sounds until the resonance of your tones becomes round and rich, *chiaroscuro*.”<sup>115</sup> The literal meaning of *chiaroscuro* is “bright/dark” tone. It is described by *bel canto* scholar James Stark as “a tone quality so distinctive that even a casual listener will associate it with operatic singing; it can hardly be confused with vernacular styles of singing or with the choral voice.”<sup>116</sup> It is the desired sound quality for a well-trained vocal soloist.

*Chiaroscuro* is a tone quality that has a warm and resonant, but brilliant, quality.

Stark elaborates on the source of its resonant tonal quality:

. . . *chiaroscuro*, which literally means the bright/dark tone, and which designates that basic timbre of the singing voice in which the laryngeal source and the resonating system appear to interact in such a way as to present a spectrum of harmonics perceived by the conditioned listener as

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115. William Earl Brown, *Vocal Wisdom: Maxims of Giovanni Battista Lamperti* (1931; reprint, Whitefish, MT: Kessinger Publishing, 2007), 38.

116. James Stark, *Bel Canto: A History of Vocal Pedagogy* (Toronto: University of Toronto Press, 1999. Paperback reprint, 2003), 34.

that balanced vocal quality to be desired—the quality the singer calls ‘resonant.’<sup>117</sup>

*Chiaroscuro*, then, is tone that is considered to be a vocal quality with the perfect balance of bright and dark. Referring to how this balance is accomplished, *bel canto* master Manuel García “was the first to distinguish between the glottal source and the modifications of that sound by the vocal tract.”<sup>118</sup> The mystique of *chiaroscuro* tone production was identified by García and his contemporary, the physician and physicist Hermann Helmholtz (1821-1894). Stark explains, “García’s contemporary, Hermann Helmholtz, established the principles of acoustical theory in what is now known as the source-filter theory of tone production.”<sup>119</sup> This theory affirmed the voice’s ability to adjust brightness through glottal closure and darkness through the vocal tract to produce a balance between brilliant and dark “simultaneously in a single, complex tone.”<sup>120</sup>

*Bel canto* singers were trained to sing the full range of their voice with a consistent tone quality from register to register. Tonal evenness is a highly-valued *bel canto* quality, and among singers it is often referred to as registration. The term registration was derived from its use with pipe organs. Similar to an organ, singers and teachers of *bel canto* considered the voice to have more than one register. Cornelius Reid explains,

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117. *Ibid.*, 33-34.

118. James Stark, *Bel Canto: A History of Vocal Pedagogy* (Toronto: University of Toronto Press, 1999. Paperback reprint, 2003), 56.

119. *Ibid.*

120. *Ibid.*

The expression ‘vocal register’ is derivative and was originally used by organists to describe those changes of quality caused by setting up different ‘stop’ combinations. When it was discovered that the voice was capable of making widely divergent sound qualities, it seemed both practical and appropriate that each group of like sounds should be referred to as a ‘vocal register.’<sup>121</sup>

While the number of registers may be controversial among singers, it is generally agreed that more than one register exists. Most believe that there are two or three registers, with the only exception being the very rare singer for which there is no “break,” but one continuous vocal register.

It is a challenge for one to sing from register to register because of the difference in vocal mechanical action between them. *Bel canto* training in registration was a long process that required discipline to practice and patience for vocal development. On the mutation of registers, Cornelius Reid notes,

The art of joining the registers so that the two work together as a single entity is the most difficult phase of *Bel Canto* procedure. Mancini<sup>122</sup> noted that the successful juncture of the registers demanded the greatest patience. He remarked, ‘It may be the case that the blending of the two registers has not yet reached an ideal of evenness; nevertheless, I beg the teacher and student not to lose faith, because I am sure in the end success will crown the effort—the other tones in the voice will be greatly benefited by this exercise.’<sup>123</sup>

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121. Cornelius L. Reid, *Bel Canto Principles and Practices* (New York: Coleman-Ross Company, Inc., 1950), 64-65.

122. Giambattista Mancini (1714-1800). Italian singer and teacher whose treatise on singing (1774) was similar to the treatise by Tosi (1723).

123. Cornelius L. Reid, *Bel Canto Principles and Practices* (New York: Coleman-Ross Company, Inc., 1950), 97.

In order to make a smooth transition between registers and sing with an even tone quality throughout the full range, singers practiced exercises specifically intended for this purpose. Reid reinforces the need for training and the gradual development of joining registers: “According to the early masters, traditional voice-training procedures largely centered around the development, purification, and gradual unification of the registers.”<sup>124</sup> Maneuvering smoothly between registers is critical to singing in the *bel canto* style. Continuing to reinforce how essential registration is to the style, he elaborates, “the ability to sing smoothly and evenly, and to swell and diminish with ease and freedom, as well as produce full, resonant tones, is almost wholly dependent upon a correctly developed registration.”<sup>125</sup> *Bel canto* vocal training included exercises to develop the vocal technique desired to move flawlessly between registers. Among these are scalar exercises—both ascending and descending. Scale passages begin with three notes ascending and descending, expanding to an octave or more.

Since the elimination of register differences was an important part of developing *bel canto* tonal evenness, the *bel canto* exercise of *messa di voce* was used to accomplish this purpose. *Messa di voce* is literally a swelling dynamic on a single note used to strengthen the weaker notes of a register. Stark quotes early nineteenth-century Paris *Conservatoire* master teacher Alexis Garaude describing *messa di voce*:

‘Each tone of the scale is made on the vowel [a] and it must be *filé*; it is said that it must begin very sweetly, and be gradually increased until

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124. *Ibid.*, 72.

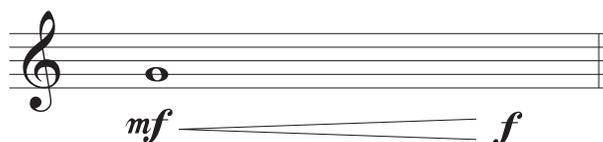
125. Cornelius L. Reid, *Bel Canto Principles and Practices* (New York: Coleman-Ross Company, Inc., 1950), 73.

halfway through the note (where it reaches its greatest force), then diminished insensible to the end of the note. This manner of spinning the tone [*filer les sons*] is called *mise de voix* or *messa di voce*.<sup>126</sup> He continued by saying that the *messa di voce* must be done ‘with purity and without effort. In reinforcing the weak tones, it must be done without altering the (vocal) organ or disfiguring its sound. The quality of the timbre (*metallo*) of the voice must be natural.’<sup>126</sup>

Consistent with the gradual nature of *bel canto* training, preparation for this technique was begun as a *crescendo* on one note. As control of a *crescendo* improved, the exercise expanded to include a *diminuendo*. Cornelius Reid describes the exercise: “Successful execution of the *messa di voce* is marked by the gradual swelling and diminishing of a single tone from *pianissimo* to *fortissimo* and back to *pianissimo* with little or no change in vowel quality.”<sup>127</sup>

Musical example 3.1 demonstrates a swelled note beginning with a simple *crescendo*. During the *crescendo*, one must maintain the same quality of sound and maintain pure intonation. One must keep the pitch focused throughout the *crescendo*, with good intonation and an even sound.

Musical Example 3.1. *Crescendo*



126. James Stark, *Bel Canto: A History of Vocal Pedagogy* (Toronto: University of Toronto Press, 1999. Paperback reprint, 2003), 97.

127. Cornelius L. Reid, *A Dictionary of Vocal Terminology: an Analysis* (1983; reprint, Huntsville, TX: Recital Publications, 1994), 207.

Another exercise of *messa di voce* was begun as a controlled *diminuendo* and applied to one note at a time. As each note was successfully mastered, the technique was advanced through the addition of either another note, or by staying on the same pitch and singing a *diminuendo*, as seen in musical example 3.2.

Musical Example 3.2. *Messa di voce*



Combining the two previous musical examples produces another valuable *messa di voce* exercise, as demonstrated in musical example 3.3.

Musical Example 3.3 *Messa di voce*



William Shakespeare explains the practice of *messa di voce* stating, “In this study the custom was generally to forbid the student to commence in practice with the *pp*. He had to begin *forte* or *mf*, and learn to *diminuendo* to *pp*, and until this was acquired it was not considered advisable for him to reverse the process and so complete the full scheme.”<sup>128</sup>

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128. William Shakespeare, *The Art of Singing* (Bryn Mawr, PA: Oliver Ditson Co., 1898), 126.

Musical examples 3.4 through 3.6 demonstrate Shakespeare's recommended process of developing *messa di voce*.<sup>129</sup>

Musical Example 3.4. *Messa di voce* development exercise (Shakespeare)

**Adagio**

Lah, \_\_\_\_\_  
***f*** *dim.* ***p*** *dim.* ***pp***

Musical Example 3.5. *Messa di voce* development exercise (Shakespeare)

**Adagio**

Ah, \_\_\_\_\_  
***pp*** *cresc.* ***f*** ***pp***

Musical Example 3.6. *Messa di voce* development exercise (Shakespeare)

**Adagio**

Ah, \_\_\_\_\_  
***pp*** ***f*** ***ppp***

The exercise of *messa di voce* develops one's ability to move smoothly between registers, with additional benefits including consistent sound quality and pure intonation.

129. Ibid., 126-127

Lower notes of a register tend to sound weaker and higher notes of a register are stronger; *messa di voce* exercises are designed to even out the sound quality between these registers. Thus, by singing *messa di voce* on pitches that lie at the top of the lower register and the bottom of the higher register, the focused tone quality of notes bridging the two registers became a mixture of the tone qualities of the two registers. The weaker notes were strengthened, producing the desired evenness throughout a singer's entire range. Cornelius Reid described the ultimate goal and achievement of *messa di voce* in the following manner:

In advanced stages of training the performance of the *messa di voce* must be practiced continually until there is an exact matching of both quality and intensity at the point of transition. After this technique has been mastered the 'break' disappears, and the singer is able to pass freely from one register to the other, from soft to loud and from loud to soft, without difficulty. This is the kind of technique that the early masters described as 'the art of producing the voice.' This is the singing style known as *Bel Canto*.<sup>130</sup>

The solid technical foundation provided by *bel canto* masters was considered to be a primary contributing factor in tone production. Good singing technique established the necessary foundation for resonant and free tone production. Included in this was the development of pure intonation and vowel formation.

Established through dedicated *bel canto* practice techniques, perfect intonation and purity of vowels are considered indispensable to producing a *bel canto* style tone because singing with perfect intonation and purity of vowels significantly affects tone

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130. Cornelius L. Reid, *Bel Canto Principles and Practices* (New York: Coleman-Ross Company, Inc., 1950), 98.

quality and tonal evenness between registers. Since a beautiful *bel canto* style sound was produced by pure intonation and pure vowels, these two qualities were considered to be inseparable by the early Italian *bel canto* masters. Cornelius Reid comments on the Italian concept of tone quality, “A tone was considered beautiful when ‘pure,’ and ‘purity of intonation’ was known to be inseparable from ‘pronouncing the vowel distinctly.’”<sup>131</sup> Pronouncing the vowel correctly was so important that exercises were kept simple for the purpose of focusing intently on vowel formation. Reid confirms this approach, “the most elementary musical figures, mainly *solfeggi*, were used so that the attention of the student could be centered undividedly on ‘singing the vowel purely.’”<sup>132</sup>

To pronounce the vowel distinctly, a *bel canto* singer received training in proper tone production. Training commonly began on the most naturally produced vowel sound, *ah*. Shakespeare explains the reasoning behind it:

The old masters sang their exercises chiefly on the vowel which demands the greatest unconsciousness of tongue and throat, and which, when rightly executed, causes the greatest space in the throat and mouth and the noblest type of sound of which the voice is capable.<sup>133</sup>

He goes on to say,

It is to the sound *ah* that reference is here made, although rather to the Italian pronunciation as in the word *anima* (*ahneemah*) than to our English pronunciation of the vowel in father. *Thus, the looser the tongue the richer*

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131. Cornelius L. Reid, *Bel Canto Principles and Practices* (New York: Coleman-Ross Company, Inc., 1950), 42.

132. *Ibid.*, 43.

133. William Shakespeare, *The Art of Singing* (Bryn Mawr, PA: Oliver Ditson Co., 1898), 30.

*will be the 'ah,' and the fuller the tone; this vowel sooner than any other reveals any rigidity and consequent closure of the throat.*<sup>134</sup>

To produce a full and free tone, one must identify excess tension and rectify it. Since tension is most readily identifiable, the vowel *ah* is a good place for one to begin.

The throat must remain open and the tongue must remain flexible for freedom of tone. Shakespeare comments on breath control and tongue position relating to freedom of tone and pronunciation,

On the basis of the right breath-control, the vocal instrument can be tuned in unconscious freedom, and the tongue can assume any position necessary to pronunciation. Consequently, the space at the back of the tongue, as well as the cavity of the mouth, is now completely under control, and as the tone demands a certain open state of throat, *he who knows how to pronounce, and control the breath, knows how to sing.*<sup>135</sup>

Training in the fundamentals of vowel pronunciation is a slow process that requires patience for the teacher and student. Joining registers and mastering purity of vowels are addressed in the beginning stage of tone production. They require both patience and persistence. Reid emphasizes this point:

The first stage of training is a long one and no undue haste must ever be shown if satisfactory results are to be obtained. The second stage of training does not begin until both registers have been clearly established and all imperfections removed that might detract in any way from the purity of the vowel quality.<sup>136</sup>

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134. Ibid.

135. William Shakespeare, *The Art of Singing* (Bryn Mawr, PA: Oliver Ditson Co., 1898), 30.

136. Cornelius L. Reid, *Bel Canto Principles and Practices* (New York: Coleman-Ross Company, Inc., 1950), 82.

He continues by quoting the well-known eighteenth-century singer and vocal tutor, Pier Francesco Tosi: “ ‘oblige the pupil to pronounce the vowel distinctly, or he has not got out of the first lesson!’ ”<sup>137</sup>

*Bel canto* masters continually reinforced fundamentals of vocal production. Essential to tonal evenness, training in fundamentals also included the development of steady breath control throughout the full range. The practice of seamlessly uniting registers results in the development of air efficiency, because without focused air to fuel the vibration of the vocal cords sound quality will be poor. During the exhalation, air must be steady to make smooth transitions between registers. An even balance in tension of breathing muscles will allow for freedom in tone production and efficient use of air.

Reid clarifies:

Tension evenly balanced and maintained as in a correct manner of breathing leads to a precision of attack, i.e., the instantaneous sounding of a definite pitch, vowel and intensity, otherwise impossible. All noise, breathiness and other impurities are simultaneously eliminated.<sup>138</sup>

Therefore, when one transitions smoothly between registers, breath is not wasted and sound quality is improved, allowing for consistent vibration of the vocal mechanism.

Cornelius Reid explains this principle,

The well-produced voice always seems to have more breath in reserve even after having sung consecutive phrases of inordinate length and difficulty, while the poorly used voice forever seems to be gasping and in obvious distress. This difference, of course, is not due to a voluntarily

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137. Ibid.

138. Cornelius L. Reid, *Bel Canto Principles and Practices* (New York: Coleman-Ross Company, Inc., 1950), 153.

controlled emission, but is entirely the result of a well-balanced registration. Muscular contractions determining the ratio of registration are directly responsible for the success or failure of the vocal cords to come into close approximation. When the cords are not brought into proximity the breath flows out through the opened glottis unchecked and is wasted. Under such conditions it is utterly impossible to produce either a beautiful tone or have enough breath to sing phrases of even moderate difficulty with comfort.<sup>139</sup>

Accomplished registration and vowel purity create the necessary climate for breath control to be balanced. Tone quality is even and intonation is accurate.

A beautiful sound throughout the entire range is produced by way of successful registration and vowel purity. Rather than the mechanics of sound production being the focus, however, the ear is the primary focus. One must hear what sound he/she would like to produce, and allow the breath and accompanying musculature to follow. It might be said that each note possesses its own “feel” in the body. William Earl Brown quotes maxims of renowned *bel canto* master Giovanni Battista Lamperti on the union of ear and tone:

The myriad ganglia (nerve centres) distributed throughout the torso, though acting reflexively, telegraph to the brain all that is taking place in the muscles and lungs, and finally anticipate and control the action of breathing to sing. Then the sense of hearing unites the pulsations in the voice and the energy in the breath to form the singing tone. The nerves of the ear, whose tip-ends form the magical rods of Corti, keep the brain informed as to what this union of voice and breath is doing, and finally, anticipate and control the result.<sup>140</sup>

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139. Ibid., 150.

140. William Earl Brown, *Vocal Wisdom: Maxims of Giovanni Battista Lamperti* (1931; reprint, Whitefish, MT: Kessinger Publishing, 2007), 35-36

William Shakespeare recognized that each note has its own particular breath pressure and feel. It is a singer's responsibility to re-produce the feel and sound of each pitch on command. He describes this phenomenon:

. . . for *every note* of the human voice, and for *every gradation* of force pertaining to it, there is a condition of the mechanism of the instrument which is appropriate to this, and to no other note. Furthermore, rigidity of the instrument prohibits the accurate control of the mechanism necessary for a given force of any note. The artist can increase the intensity of his tone without increasing its volume, and thus can produce the softest effects in the largest theatres . . . he can produce equally well the more powerful gradations, until he reaches *fortissimo*, without overstepping that control which is the boundary of noble and expressive singing.<sup>141</sup>

Cornelius Reid describes the vocal experience of balance between vocal production and its supporting breath control:

Under an arrangement where the inspiratory and expiratory tension is held in even balance the tone production takes on a buoyant quality and, if the registration is well developed and working harmoniously, the 'purity of intonation' so admired by all lovers of *Bel Canto* will have been attained. Breathing techniques, however, must always be considered subordinate to registration and vowel purity; not *responsible* for those conditions, but merely a co-operative element."<sup>142</sup>

Mandatory to vowel purity and successful registration is a perceptive ear.

Imagining the sound prior to emitting and consequently listening to the ensuing sound that is produced is necessary to produce a beautiful *bel canto* sound. The ear informs us and equips us with the information needed to change sound. This principle also applies to brass instruments—sound is psychologically effected.

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141. William Shakespeare, *The Art of Singing* (Bryn Mawr, PA: Oliver Ditson Co., 1898), 40.

142. Cornelius L. Reid, *Bel Canto Principles and Practices* (New York: Coleman-Ross Company, Inc., 1950), 153.

Renowned tubist and brass pedagogue Arnold Jacobs explains the concept hearing-before-singing (playing) as it applies to brass players, “On the scale of importance, I would put 85 percent into psychological attitudes of *song* so that the lips will have a message, and 15 percent in *wind* as a matter of movement.”<sup>143</sup> He continues on, describing the similarity between a brass player’s and the singer’s mechanism, “Instead of vocal chords in the larynx, we have vocal chords in the larynx of the tuba, which is the embouchure.”<sup>144</sup> Similar to the steady breath of a singer, to develop the brass embouchure’s muscles, Jacobs suggests:

continuous sound in itself is embouchure building and when it is carried throughout the range of the horn, [and we must include dynamic range as well as pitch range], we will certainly bring about embouchure strength. If we include fast changes of pitch in interval form as well as scale form, then we will achieve our goal as velocity tends to refine the embouchure form and to reduce the amount of change in musculature involved.<sup>145</sup>

Finally, Jacobs confirms the importance of approaching music-making from the perspective of sound, rather than mechanics, “Unfortunately, younger brass players try to control the embouchure tissue to control sound.” Jacobs simply tells them to do the opposite, “Control the sound to control the meat. Think less of the muscle fibers and think like a great artist.”<sup>146</sup>

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143. Brian Frederiksen, *Arnold Jacobs: Song and Wind*, edited by John Taylor (Gurnee IL: WindSong Press Limited, 1996), 123.

144. Ibid.

145. Ibid.

146. Ibid.

## Horn Playing

The *bel canto* quality of a beautiful, consistent sound heard throughout all registers is referred to as tonal evenness. To possess tonal evenness is a coveted goal among horn players, just as it is for singers. To achieve beautiful tone throughout the full range of the horn, one must begin with one beautiful note and gradually expand in range, maintaining the same beautiful tone quality. *Bel canto* masters taught the technique necessary to accomplish this by first presenting developmental exercises. As a student developed technically through the practice of exercises, they progressed to vocalises (songs without words) and finally advanced to songs (with words). Similarly, for the advancement of tonal evenness in horn playing, I will begin by explaining specific techniques required to develop tonal evenness and present exercises designed to enable the player to achieve them. In Chapter VI, these techniques are applied to music composed for horn.

To develop tonal evenness, one must begin with a beautiful tone on one note. To produce such a tone, it is beneficial for a *bel canto* horn player to first master the articulation of a sound without any tongue at all. This is because the substance of sound begins with the combination of only air and lip vibration. There are many ways to begin a note with the tongue, but the tongue simply defines a note beginning; it does not produce sound. The start of a note is the result of *air* beginning the vibration of the lip; for this reason the coordination of air and lip is imperative to creating a beautiful tone.

To develop beautiful tone quality on even one note, one needs proper breath control. This requires a dependably steady airstream. As Farkas states, “Tone quality can be only as healthy as the air-column which supports it.”<sup>147</sup> A healthy air-column, as mentioned by Farkas, can be described as an airstream that is moving well and is filling the horn from the very first note of a phrase. This technique can be developed through breath attacks, since breath attacks require strong, controlled air from the beginning of a note. When one practices breath attacks, the goal is to produce a beautiful note entrance that is smooth and focused. It is best to begin in the middle register, keeping corners of the mouth firm and allowing the embouchure to be relaxed at the aperture. If close enough together, lips will naturally buzz when air passes between them. When practicing breath attack musical example 3.7, one should set the metronome at quarter note equals 58 beats per minute and deeply inhale on beat 4 prior to each entrance. During each rest, the mouthpiece should be taken off of the mouth and on beat 4 prior to the next entrance, a relaxed breath should be taken.

Musical Example 3.7. Breath attack exercise for tone



Mastery of breath attacks naturally leads to the development of smooth tongued legato attacks. Breath attacks serve to coordinate the air and lips to begin a note. After

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147. Philip Farkas, *The Art of French Horn Playing: A Treatise on the Problems and Techniques of French Horn Playing* (Evanston, IL: Summy-Birchard, 1956), 53.

breath and lips are coordinated, the tongue can serve to define the note entrance more precisely. To develop this technique, one should begin by practicing breath and tongued legato attacks in the middle register as shown in musical example 3.8. Each note should first be played with a breath attack and then repeated using the tongue as if saying “dah.” The vowel will modify from “ah” toward an “ee” as the notes ascend. If the tongued attack sounds percussive, the note should be practiced with a breath attack again, followed by another tongued legato attack until the note entrance sounds smooth. There should be very little difference heard between the two attacks, and the sound of each note should be equally resonant.

Musical Example 3.8. Breath attack exercise

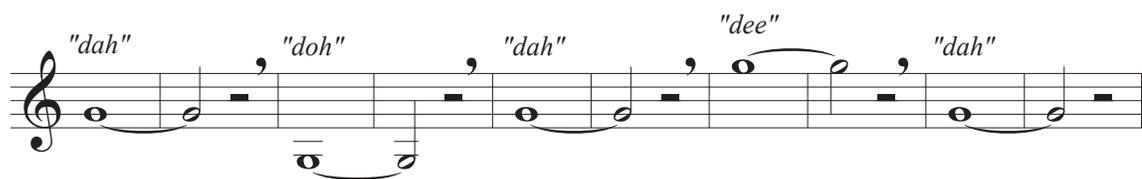
The musical notation shows a single staff in treble clef with a common time signature (C). The exercise consists of eight measures. The first two measures are marked "breath attack" and "dah", the next two are marked "breath attack" and "dah", and the final two are marked "simile . . .". The notes are quarter notes on a five-line staff, starting on G4 and ascending to D5. Each note has a small black square above it indicating the point of attack.

An attack produced with the tongue defines the release of air, but no sound occurs apart from the air. The air should take priority when attacking a note. When the tongue is given priority and is too heavy, a forceful attack ensues and an elegant legato entrance is thwarted. To correct this common mistake, one must use a wider portion of the tongue tip for the attack and keep the tongue soft, rather than stiff. This will facilitate a gentle release of air for the note entrance.

A well executed legato attack produces a beautiful note beginning. To sustain the note with beauty and resonance, there must be a steady release of air and pure vowel formation with the tongue. This is accomplished through thoughtful placement of the tongue as the note is being both attacked and sustained. Long tones provide the means to develop optimal tongue placement for attacking each pitch with a legato tongue as well as sustaining a consistent sound. There is an optimum placement for the tongue in order to focus the airstream for each pitch, and playing long tones helps one become familiar with both attacking and sustaining the tone.

Since each note requires specific placement of the tongue for optimal sound, there are variations of tongue placement within each register. The middle register vowel is “dah,” the upper register is “dee” and the lowest register is “doh” (See APPENDIX B for register specification). In order to form these vowels when speaking, a change in tongue position is required, specifically the rising or lowering in the middle of one’s tongue. For each attack, the tongue touches the ridge just above the teeth for “dah,” closer toward the roof of the mouth for “dee,” and at the point where the gums and top teeth meet for “doh.” In the extreme upper register notice that as the note is begun with the syllable “dee,” the sides of the tongue are in contact with the upper teeth. Maintain this contact while sustaining the high note. Musical examples 3.9 and 3.10 are exercises designed to familiarize oneself with the changes in tongue placement for the middle and upper registers. Each exercise can be played using natural horn fingerings (see APPENDIX A) both descending on the F horn and ascending on the B-flat horn.

Musical Example 3.9. Legato tonguing in varied registers—octaves



Musical Example 3.10. Legato tonguing in varied registers—triad



For a legato entrance in the extreme low register (G and below) attack a note as if forming the word “tho,” with the tongue striking at the bottom of the top front teeth—the tongue will actually be *between* the teeth. When executing musical example 3.11, one should feel the change in tongue placement as the octave changes. The jaw must open and the lower jaw must extend outward, like a drawer. If the lower octave sounds stuffy, lower the tongue after the attack to create a larger resonance cavity in the mouth. It remains important to keep the corners of the mouth firm. Bring the corners inward toward the lips to avoid a stretching “smile” embouchure.

Musical Example 3.11. Legato tonguing in extreme low register—octaves

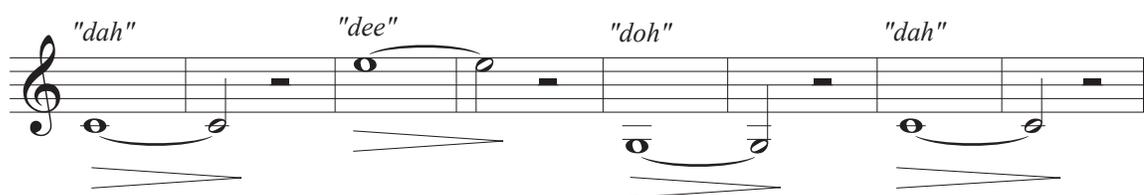


Musical examples 3.9 through 3.11 focus on a beautiful legato attack and sustained sound in all registers at a moderate dynamic. In addition to this, the release of each note must be equally pleasing. In musical example 3.9, each note of the exercise is released exactly in time without any change in dynamics. In addition to releasing a note without a dynamic change, one can also intensify the note with a slight *crescendo* or taper the note with a slight *diminuendo*. To intensify the release of a note, in a sense to “send it off,” one must *crescendo* slightly and maintain support as the air volume is increased with the release of the note into the following rest. The result is the effect of lifting the note with the release. Musical example 3.12 is a “long tone” exercise intended to develop this type of release. One must increase the air at the end of a note and suddenly let go while supporting the sound with firm abdominal muscles.

Musical Example 3.12. Legato tonguing in varied registers—octaves with added *crescendi*

Tapering a note, or rather getting softer prior to releasing a note, is a highly valued skill for a *bel canto* horn player. When tapering the note with a slight *diminuendo*, maintain firm abdominal support and keep the air moving through the aperture to sustain the buzzing of the lips.

Musical Example 3.13. Legato tonguing in varied registers—triad with *diminuendi*



To maintain a consistent sound when changing registers, minor adjustments in the formation of vowel shape are necessary. As previously discussed, the upper register requires an “ee” shaped vowel, middle register requires “ah” and the low register requires “oh.” When shifting between registers, tone quality can change dramatically. To prevent this from occurring, one must blend the vowels to temper the sound quality. The vowel formation ranges from the low “oh” to the extreme high of “ee” and the ratio of these in the blend is determined by range and dynamic. If the tone is too bright, move the tongue slowly toward an “ah” or “oh.” If the tone is too dark, move the tongue slowly toward an “ee” vowel. One should practice the exercises *very* slowly and listen carefully to sound. Ultimately, the player learns to make necessary adjustments with tongue position to equalize tone and optimize resonance. In the long tone exercise musical example 3.14,

the horn player practices long tones on an ascending series of notes, each a third above the previous one. Every note must produce the same sound quality.

Musical Example 3.14. Long tone exercise for vowel adjustment

One should practice scales, louder or softer, in order to further develop tonal evenness. A common scale pattern, found in musical example 3.15, is an excellent means to cultivate fluency of adjustments in vowel formation for tonal evenness throughout the entire range. One must begin practicing at a very slow tempo and listen carefully to sound quality, making adjustments as needed to maintain an equally resonant sound throughout the scale. This exercise can be done in all keys. It is most beneficial to vary the register by either increasing the scale to an octave range, or by extending the scale, ascending or descending to the player's current effective range. While the scales should be played very slowly at the outset, eventually, as the tone becomes even and consistently beautiful, the tempo can be increased.



Through a *crescendo*, the aperture must gradually open and relax to accommodate the additional air moving through the lips. This slight relaxation will allow the sound to remain warm and round. When lips are stiff through resistance to additional airflow, the ensuing sound is brittle. The player should relax the aperture enough to allow a free-flowing airstream. Keeping the cheek muscles at the corners of the mouth firm and inward, the aperture should be round rather than flat. A pinched tone may be the result of a closed throat, or a flat aperture. A tone that does not speak, or sags, may be the result of an aperture that is too loose in the middle. The exercise in musical example 3.17 includes a *crescendo* and a *diminuendo* on each note. For maximum benefit, the air should be steady and the *crescendo* paced evenly without sudden dynamic change. The *diminuendo* should be a mirror image of the *crescendo*—air should be kept steady and the *diminuendo* should be evenly paced.

Musical Example 3.17. Long tones with *crescendo* and *diminuendo*

The musical notation consists of a single staff with a treble clef. It contains six long tones, each marked with a fermata. Above each note, the duration is indicated: (8 beats), (8 beats), (12 beats), (8 beats), (8 beats), and (12 beats) etc. Below the staff, dynamic markings are shown with wedge-shaped lines indicating the shape of the crescendo and diminuendo. The first note has a *p* marking followed by a wedge that tapers to *f*. The second note has a *f* marking followed by a wedge that tapers to *p*. The third note has a *p* marking followed by a wedge that tapers to *f*. The fourth note has a *f* marking followed by a wedge that tapers to *p*. The fifth note has a *p* marking followed by a wedge that tapers to *f*. The sixth note has a *f* marking followed by a wedge that tapers to *p*.

For a graceful and elegant release, a *diminuendo* must contain active breath. Air should always be moving forward, even as the quantity of air is diminishing. To think of “spinning” the air when playing soft dynamics is helpful, similar to spinning a top: the sound will stay in motion, continuing until the release. The lips must vibrate consistently,

fueled by the constantly moving airstream. The importance of keeping the air moving forward while getting softer cannot be overemphasized, and while one does this, it is imperative to maintain firm abdominal muscles.

To practice the skill of tapering a note, begin with the middle register and progressively ascend and descend from there, as shown in musical example 3.18. Once breath control has developed and the note tapers beautifully beginning at *mezzo-forte*, increase the starting volume to improve breath control even more.

Musical Example 3.18. Double whole-note tapered *diminuendo*

The musical staff shows five double whole notes. The first note is marked *mf* and tapers to *pp*. The second note is marked *mf* and tapers to *pp*. The third note is marked *mf* and tapers to *pp*. The fourth note is marked *mf* and tapers to *pp*. The fifth note is marked *mf* and tapers to *pp*. The first *pp* note has the text "dissolve sound" written below it. The staff ends with "etc."

To achieve tonal evenness throughout the entire range, a horn player must always engage steady abdominal support. The abdominal muscles should always feel firm from the note entrance until after its release. Some may find it tempting to relax while playing at softer dynamics, but this is detrimental to the sound. Since steady support is critical to a consistently beautiful sound, it is beneficial to develop familiarity with the support system. As shown in musical example 3.19, one can discover and exercise the support system through sudden changes of dynamics.

Musical Example 3.19. Exercise for engaging low support (choose random notes)

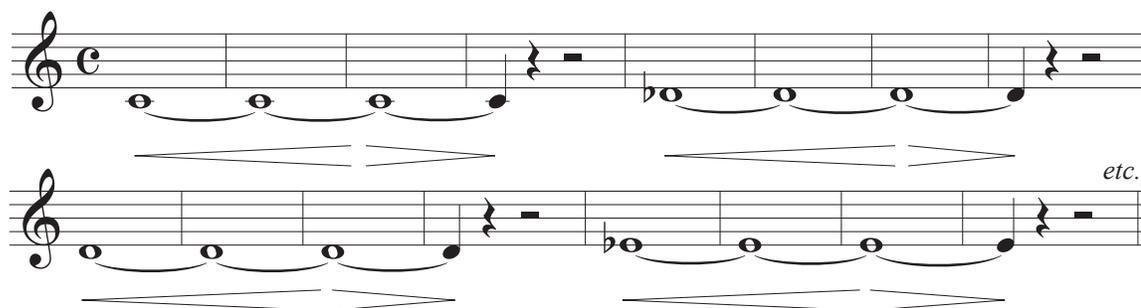
Enter the note with the mid-abdominal area firm. When changing to *forte* on beat three, firm the lower abdominals consecutively. The firming of the lower abdominals will easily create a *forte*. Relax them on beat four and the middle abdominals will be enough to support the soft dynamic which follows.

As the support system becomes dependable and the breath steady, controlling the sound until after the release of the last note of a phrase becomes possible. Scale exercises, such as in musical example 3.20, are useful for developing breath control through a phrase. In this exercise, one must keep abdominal support steady and the air always moving forward in a steady stream.

Musical Example 3.20. Scale exercise for supporting through a phrase

*Messa di voce* is the *bel canto* horn technique of gradually swelling and diminishing a single tone. Mastery of *Messa di voce* is demonstrated by maintaining the same quality of sound through the duration of a tone while the loudness is changing. Each tone begins at *pianissimo*, swells to a *fortissimo* and returns to *pianissimo*. An ascending chromatic scale with a swell on each note, as seen in musical example 3.21, is an effective exercise for practicing this technique.

Musical Example 3.21. *Messa di voce* swelled long tone exercise



The horn player should keep the tone quality consistent throughout the *Messa di voce* exercise. Listening carefully to the tone quality, attempt to locate the most resonant vowel shape for each note, and maintain the optimal resonance for the entirety of the note. One may find it helpful to visually check a tuner, since tone quality and intonation are closely linked.

Sustaining pure vowels is critical because intonation and sound are so closely related. Consistent vowel shape on long tones serves to produce not only a resonant sound, but also produces a centered pitch with accurate intonation. One should practice

long-tone exercises with this in mind. As each note is played, find the optimal tongue position for a beautifully centered resonant sound and maintain the tongue position (a variant of “oh”, “ah” or “ee” from low to high range) throughout its duration.

To maintain tonal evenness throughout the range of a horn and produce a beautiful, resonant sound at a loud dynamic, changes in mouthpiece pressure must be made. There must be a firm seal where the mouthpiece rim and the mouth connect. While it is common knowledge that too little mouthpiece pressure can cause air leakage and too much can cause undue fatigue, the mouthpiece pressure also affects sound. A *bel canto* horn sound should be warm and free. To perpetuate warmth and resonance, the mouthpiece pressure must lessen for louder playing. Therefore, in addition to vowel formation and firm abdominal support at *fortissimo*, a horn player must reduce pressure of the mouthpiece in order to produce a *forte* sound equal in beauty to that of a *pianissimo*. The exercise in musical example 3.21 provides one exercise to advance this technique.

For a *bel canto* horn player, the goal for tonal evenness is to maintain a consistently beautiful, resonant sound on all pitches and at all dynamic levels. To do so at a loud dynamic, as in the previous exercise, the embouchure must adjust, by relaxing the aperture slightly, to accommodate the increase of air. If the aperture remains the same, the sound will be harsh or brittle. The *bel canto* sound will soar at any dynamic level. For a beautiful *bel canto* sound in all dynamic ranges, practice long tones to develop strength and breath control. When practicing them, allow for minor adjustments in aperture when

varying the dynamics. Since a relaxed, resonant sound is the ideal *bel canto* horn sound, one should listen for consistency in sound quality on every note, especially when changing pitches.

Air speed varies depending on the register, and proper vowel formation with the tongue facilitates the optimal air speed for each register. The middle register requires a moderate air speed (“ah”), while the air speed for the upper register is fast (“ee”) and the low register air speed is slow (“oh”). It may be pedagogically helpful to characterize high register air as *cool* (fast) air and low register as *warm* (slow) air. The louder dynamic will require more and faster air and a soft dynamic will require less and slower air, but only relative to the amount needed for a *mezzo-forte* played in the same register.

As discussed previously, balancing highs and lows equally on each note will produce an even tone quality. Fred Fox, renowned brass pedagogue and author, explains:

The quality of the tone—that is, the ratio or mixture of highs and lows—must remain constant not only on one note from soft to loud, but also from high to low and on every note throughout the range of the instrument. . . identical mixture of highs and lows must be maintained on every note throughout the entire range of the instrument. Higher notes will need a gradually smaller vowel sound, while lower notes require a gradually larger vowel sound in order to maintain the same mixture.<sup>148</sup>

Practicing slurred scale passages is an excellent way to develop steady air, a consistent buzz and tonal evenness. Scale exercises develop smooth and “creamy” stepwise movement, whereas arpeggiated natural horn exercises develop smoothness for larger intervals.

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148. Fred Fox, *Essentials of Brass Playing : An Explicit, Logical Approach to Important Basic Factors that Contribute to Superior Brass Instrument Performance* (Los Angeles: Fox, 1974), 17.

Very slow practice of arpeggiated figures will help to improve evenness of tone between registers. When played very slowly, adjustments can be made in the balance between highs and lows on each note. Musical example 3.22 is an exercise to accomplish this purpose.

Musical Example 3.22. *Arpeggio* exercise to balance highs and lows



One should hold the first note until the ratio of highs and lows is optimal for a pleasing, resonant sound. Then play the next three notes of each *arpeggio*, maintaining equal sound quality.

There are many reasons for a horn player to buzz on the mouthpiece alone. For the purpose of *bel canto* horn technique, it is valuable to practice mouthpiece buzzing to improve breath control, focus sound and build facial muscles. Playing mouthpiece exercises a few minutes each day can improve the sound and refine the embouchure. One must play with a very strong, buzzy sound. Powerful, steady exhalation is required when buzzing on the mouthpiece, and pitches must be thoroughly connected, with each note blending into the next. Although it is crucial to play with firm muscles at the lip corners when playing on the mouthpiece alone, one should concentrate on changing the aperture to move from pitch to pitch. Beginning in the middle register, as shown in musical example 3.23, the player must keep the air strong and the pitch focused.

Musical Example 3.23. Mouthpiece exercises for resonance and physicality

The image shows three staves of musical notation. Each staff begins with a slur over a series of notes, followed by a series of notes with slurs and accents, and ends with a final note. The exercises involve ascending and descending scales with various intervals and slurs.

Another valuable mouthpiece exercise, musical example 3.24, is recommended by Frøydis Ree Wekre<sup>149</sup> and expands to larger octave intervals.

Musical Example 3.24. Mouthpiece exercise

The image shows two staves of musical notation. Each staff begins with a slur over a series of notes, followed by a series of notes with slurs and accents, and ends with a final note. The exercises involve glissando movements between notes, indicated by wavy lines and the word 'gliss.'. There are also double bar lines with a '2' above them, indicating a second ending or a specific technique.

It is necessary to strengthen the aperture corners for the fine muscle control needed to play high notes and soft dynamics. Pitch-bending exercises (see musical example 3.25) are particularly helpful in strengthening the aperture corners and developing muscle control. Play each note and, *without changing fingering*, lip the note

149. Frøydis Ree Wekre, *Thoughts on Playing the Horn Well* (Oslo, Norway: Frøydis Ree Wekre, 1994), 5.



## CHAPTER IV

## AGILITY

## Singing

One of the most recognized and celebrated aspects of *bel canto* singing is agility. There is no question that a light, agile approach to singing has been long sought after by singers and listeners alike. One useful definition is that to be agile is “marked by ready ability to move with quick, easy grace.”<sup>150</sup> And according to Cornelius Reid, vocal agility is literally defined as “facility in singing swift musical passages accurately, smoothly, and evenly.”<sup>151</sup> *Bel canto* singers train extensively in the fundamentals of singing to establish vocal technique with which one can sing with agility and precision. Agility was a coveted result of extensive training; the *bel canto* approach, however, did not focus specifically on velocity, but rather on tone production, vowel formation and perfect intonation. Speed of execution was developed gradually over a long period of time.

Over time, the vocally agile *bel canto* singer is able to sing fast passages with ease and grace. To develop agility, *bel canto* pedagogue Manuel García recommends the practice of “diatonic scales, passages of combined intervals, *arpeggios*, chromatic scales, turns, shakes, light and shade.”<sup>152</sup> Not only will these exercises develop agility, they will

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150. Merriam-Webster Online, s.v. “agile,” accessed November 09, 2012, <http://www.merriam-webster.com/dictionary/agile?show=0&t=1352505336>

151. Cornelius L. Reid, *A Dictionary of Vocal Terminology: an Analysis* (1983; reprint, Huntsville, TX: Recital Publications, 1994), 9.

152. Manuel del Pòpulo Vicente Rodríguez García, *Hints on Singing*, rev. ed., trans. Beata García (London: E. Ascherberg & Co., 1894), 19.

strengthen the voice while at the same time develop flexibility. García continues by elaborating on the added benefits of agility exercises: “When properly directed, it renders the organ flexible, even, mellow, besides strengthening and preparing it for the florid style as well as for the plain and declamatory.”<sup>153</sup>

Agility exercises begin at a slow tempo. When practiced slowly, attention can be given to steadiness of breath, tone quality and intonation. Master *bel canto* singer and pedagogue Francesco Lamperti noted,

*Agility should be studied slowly.* The exercises should be executed so that the intervals are clearly distinguishable. The breath should be held steady in the passage from one note to the other, and the notes should be produced clearly and with a shock of the *Glottis*.<sup>154</sup>

When preparation for agility is developed slowly, one gradually improves control and precision, establishing a fundamentally good tone quality, accuracy in pitch and perfect intonation. This protects the singer from sloppiness and scooping of the notes. Lamperti goes on to say,

I should recommend caution and moderation in the study of agility as the voice by too rapid exercises is apt to become tremulous and weak, and thus, what otherwise would have been one of the most beautiful embellishments of singing, becomes one of its most serious defects.<sup>155</sup>

Cornelius Reid warns against careless execution of rapid exercises:

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153. Manuel del Pópulo Vicente Rodríguez García, *Hints on Singing*, rev. ed., trans. Beata García (London: E. Ascherberg & Co., 1894), 19.

154. Francesco Lamperti, *Guida Teorico-Pratica-Elementare per lo Studio del Canto*, translated by J.C. Griffith (1864; New York: G. Schirmer, 1890), 11.

155. *Ibid.*

A common type of exercise that should absolutely be ruled out of consideration at all times is the variety devoted to the study of velocity. Hasty, robot-like, and thoughtless running through exercises and scales makes a mockery of all vocal study.<sup>156</sup>

Great attention must be given to the development of tone, and practicing slowly allows one to be attentive to every detail of tone production. Reid goes on to reinforce this point:

Singing at all times, but especially in the early stages of training when habits are being formed, requires the utmost concentration and attention to detail. Every tonal imperfection must be understood for what it is, and really basic principles of tone production applied to remedy the fault. Glossing over faults never corrects them but only serves to make them permanent.<sup>157</sup>

In the development of velocity, or rapid passagework, Reid emphasizes, “The safest procedure is always to sing slow, legato exercises so that the attention may be concentrated undividedly on every detail of tone production. In this way it is almost impossible to form careless vocal habits.”<sup>158</sup> When developed gradually, speed will come and beautiful tone will accompany it.

Singers and horn players find rapid and agile figures most challenging when moving vertically in music. The *bel canto* approach to a large leap from a lower to a higher register is to keep air spinning on the preceding lower pitch, then proceed to the upper note using a light mechanism. To sing vertically, there must be an intensity in the

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156. Cornelius L. Reid, *Bel Canto Principles and Practices* (New York: Coleman-Ross Company, Inc., 1950), 111.

157. *Ibid.*

158. *Ibid.*

lower tone preceding the higher tone, containing momentum within it to spring to the following higher note. G. B. Lamperti explains that

there must be enough controlled energy and momentum of vibration in a tone to send the voice from any pitch to tones higher than that pitch. The wider the skip the greater the power and intensity in the pulsations of the lower tone. At the same time the higher tone is more resonant than the lower.<sup>159</sup>

When practicing *arpeggios*, Marchesi recommends keeping the higher notes light:

“*Arpeggi* should be sung quite evenly, avoiding, above all, any increase of power in the higher notes.”<sup>160</sup> Likewise, a brass player must use firm air on the lower pitch which precedes a large leap and then play the higher pitch more lightly, allowing it to simply pop out. When the upper note is approached with heaviness, the result is often a significant change in sound quality due to an overblown note.

The tip of a singer’s tongue articulates consonants of the text. However, over-emphasis of consonants can impede fluidity of motion and beauty of sound, resulting in what is known as diction singing. Cornelius Reid explains the detrimental effect of diction singing: “The evils of diction singing cannot be exaggerated and are most harmful. Everything that is basic in tone production, namely, legato singing of full, round tones of pure vowel quality, is too often sacrificed to ‘mouthing’ the words and

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159. William Earl Brown, *Vocal Wisdom: Maxims of Giovanni Battista Lamperti* (1931; reprint, Whitefish, MT: Kessinger Publishing, 2007), 102-103.

160. Mathilde Marchesi, *Bel Canto: A Theoretical and Practical Vocal Method* (n.d. reprint, New York: Dover Publications Inc., 1970), 37.

overemphasizing the articulation. When considered from the viewpoint of art and musical interpretation ‘diction singing’ is a hindrance.”<sup>161</sup>

The *bel canto* approach to singing with agility did not focus specifically on velocity, but rather on tone production, vowel formation and perfect intonation. Speed of execution was developed gradually over a long period of time. When preparation for agility is developed slowly, one gradually improves control and precision, establishing a fundamentally good tone quality, accuracy in pitch and perfect intonation.

### Horn Playing

Agility is the result of dedicated training in the fundamentals of singing, and it is a highly valued technique for both a *bel canto* singer and a *bel canto* horn player. Agility refers to moving quickly with ease between registers while maintaining a consistently beautiful sound. In his *Dictionary of Vocal Terminology*, Cornelius Reid describes agility as “facility in singing swift musical passages accurately, smoothly, and evenly.”<sup>162</sup> *Bel canto* repertoire commonly includes sections of rapid passagework which require use of a light mechanism. Light mechanism refers to a singing style that is not overly heavy and doesn’t bear down into notes, but the airstream rather floats with ease from note to note. Renowned nineteenth-century singer and pedagogue Manuel García describes agility in *bel canto* style: “This style owes its brilliancy to the rapidity with which notes are

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161. Cornelius L. Reid, *Bel Canto Principles and Practices* (New York: Coleman-Ross Company, Inc., 1950), 43.

162. Cornelius L. Reid, *A Dictionary of Vocal Terminology: an Analysis* (1983; reprint, Huntsville, TX: Recital Publications, 1994), 9.

articulated. It abounds in roulades, *arpeggios*, and shakes. The passages should be easy of execution, —light and moderate in force.”<sup>163</sup>

Agility is one of the trademarks of *bel canto* style in both singing and horn playing. Virtuoso horn players of the late-eighteenth century and early-nineteenth century demonstrated agility—the ability to play swiftly and skillfully throughout the full range of the horn. Especially notable was the Bohemian virtuoso, Giovanni Punto (1746-1803). In his well-known book on early horn history, Horace Fitzpatrick describes Punto’s horn playing style in the following manner:

Voice-like tone quality and legato which, as we have already noted, call forth such praise from the critics, were balanced by an astonishing facility of staccato technique in both high and low registers. Yet unlike Leutgeb, Punto’s technical strength lay in rapid scales and *arpeggios* rather than in wide intervals.<sup>164</sup>

Also worthy of mention is Punto’s pupil Jean Le Brun (1759-1806). Fitzpatrick comments, “Le Brun had a fine singing tone, a prodigious technique, and could play with equal facility in all keys.” He goes on to say, “This combination of expressiveness with technical perfection may serve to remind the modern horn-player of what heights his predecessors reached without the aid of machinery.”<sup>165</sup>

Fitzpatrick highlights the singing tone and technical facility that were celebrated in horn virtuosos of the time. Punto and Le Brun were known for rapid technique spanning

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163. Manuel García, *Treatise on the Art of Singing*, edited by Albert García (London: Leonard & Co., 1924), 71.

164. Horace Fitzpatrick, *The Horn and Horn-playing, and the Austro-Bohemian Tradition from 1680- 1830* (London: Oxford University Press, 1970), 172.

165. *Ibid.*, 177.

the full range of the horn and for a singing tone quality. Joseph Leutgeb (1732–1811) was known for his expertise in playing wide intervals. In an age of beautifully designed instruments with modern valves to aid with technique, one can draw inspiration from these early virtuosi. It is a worthy goal to develop technical expertise demonstrating agility. Implementing the proven method of *bel canto* singers, horn players can successfully master agility.

Development of the technique necessary for *bel canto* agility on horn requires practice of exercises focusing on four fundamental aspects of playing. These four fundamentals include stable breath control, lip and finger coordination, navigation between registers, and light tone in the upper register. In preparation to play *bel canto* repertoire with beauty and ease, these four *bel canto* techniques that contribute to agility in horn playing are explained, and representative exercises for the development of each technique are provided.

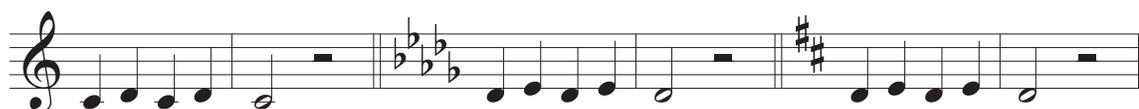
To build a technical foundation for agility, it is important to begin slowly and simply. One of the necessary fundamental skills to sing or to play horn is the ability to control the airstream, which affects accuracy, sound quality and intonation. With this in mind, rather than beginning with the practice of complete scales, *bel canto* masters begin practice with a portion of a scale. Then, as one progresses, both range and speed gradually increase. Master teacher Mathilde Marchesi explains the necessity for scale practice and introduces her beginning *bel canto* approach:

The voice in its natural state is as a rule rough, uneven, heavy, and of limited compass. Having secured accuracy of intonation in the attack of

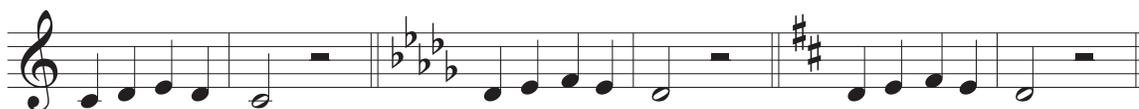
each sound. . .the next task should be the development of volume, power, and compass of the voice, and the blending of the registers. The pupil should not at first attempt to sing the complete scale, but begin by practicing exercises of two, three, and four notes, etc.<sup>166</sup>

Marchesi recommends beginning progressive scale practice with the following four exercises, musical examples 4.1 through 4.4.<sup>167</sup>

Musical Example 4.1. Progressive scale exercise no. 1 (Marchesi)



Musical Example 4.2. Progressive scale exercise no. 2 (Marchesi)



Musical Example 4.3. Progressive scale exercise no. 3 (Marchesi)




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166. Mathilde Marchesi, *Bel Canto: A Theoretical and Practical Vocal Method* (n.d. reprint, New York: Dover Publications Inc., 1970), 6.

167. *Ibid.*

## Musical Example 4.4. Progressive scale exercise no. 4 (Marchesi)



To achieve accuracy, good sound quality and intonation, musical examples 4.1 through 4.4 are helpful for horn players. These patterns should be played very slowly in each major key, centering each note with accurate intonation. Once this is accomplished, they can be played steadily and with even sound at a faster tempo.

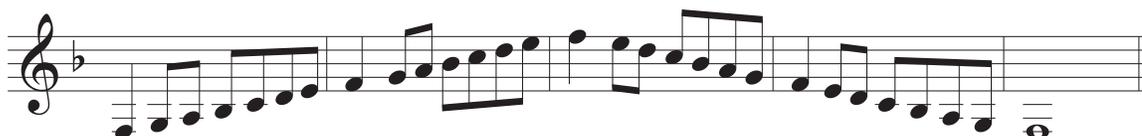
Just as *bel canto* singing exercises advance from portions of scales to complete scales, a *bel canto* horn player should also progress to complete scale exercises in all keys. Scale practice serves to develop good intonation and skill in centering notes throughout the full range of the horn. In addition, both scale and *arpeggio* exercises are invaluable to a horn player for developing lip and finger coordination. Finger patterns are unique to each key and familiarity with these patterns builds a foundation for rapid passage work found in music. Through dedicated practice in all keys, one develops *working* knowledge of fingerings—fingers move smoothly and automatically from note to note without the player consciously controlling the fingers. To develop fluidity of fingering, one should begin by practicing scales slowly in an eighth note pattern as in musical example 4.5. This pattern can be applied to all other major and minor keys.

Musical Example 4.5. Eighth note scale exercise no. 1



Another common scale pattern is demonstrated in musical example 4.6.

Musical Example 4.6. Eighth note scale exercise no. 2



Musical Example 4.7. Diatonic vocalise, dotted rhythms (Marchesi)

*Bel canto* singers practice rhythmically varied scales in the form of vocalises. One such scale-based vocalise is Matilde Marchesi’s dotted diatonic scale as seen in musical example 4.7.<sup>168</sup> A horn player can develop evenness in sound, steadiness in tempo, and finger coordination through the practice of rhythmically varied scales. Variations in rhythm serve to “train” the fingers and build a foundation to move smoothly and automatically from note to note in each key. Musical examples 4.8 through 4.11 demonstrate four rhythmic variations for scale practice. These are given in the key of F Major, but can be applied to all Major and minor keys.

Musical Example 4.8: Scale exercise (dotted-eighth/sixteenth rhythms)



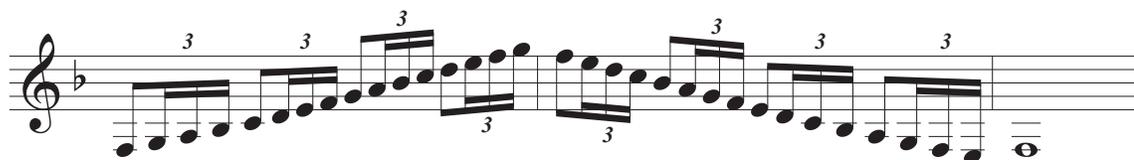
Musical Example 4.9. Scale exercise (sixteenth/dotted-eighth rhythms)



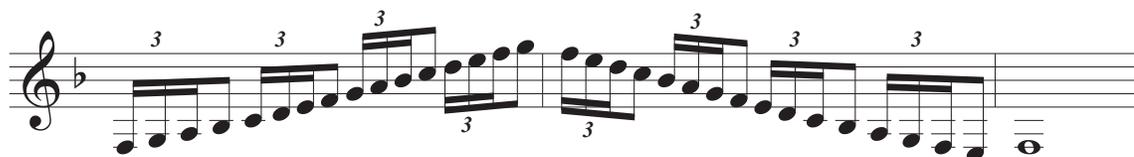

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168. Mathilde Marchesi, *Bel Canto: A Theoretical and Practical Vocal Method* (n.d. reprint, New York: Dover Publications Inc., 1970), 74.

Musical Example 4.10. Scale exercise (eighth/sixteenth-triplet rhythms)



Musical Example 4.11. Scale exercise (sixteenth-triplet/eighth rhythms)



After rhythmic scales become secure at a slow tempo, one can gradually increase the tempo. Gradual progress will encourage consistency in intonation, sound, and tempo. It is of the greatest importance for scales to be practiced slowly and perfectly before increasing speed. Dedicated practice and patience will ultimately produce speed and facility, enabling one to play scales swiftly and comfortably in all keys.

In addition to the development of rapid scale technique, a horn player should also develop the ability to play rapid *arpeggios*. Beginning with a slow tempo, one can develop familiarity with *arpeggio* fingering patterns in all keys and necessary adjustments such as tongue position required to maneuver between registers. Musical example 4.12 demonstrates the three-note *arpeggio* exercise recommended by Fred Fox

in his book *The Essentials of Brass Playing*.<sup>169</sup> One should maintain a consistent tone and smooth connection throughout each three-note group.

Musical Example 4.12. Three-note *arpeggio* exercises (Fred Fox)



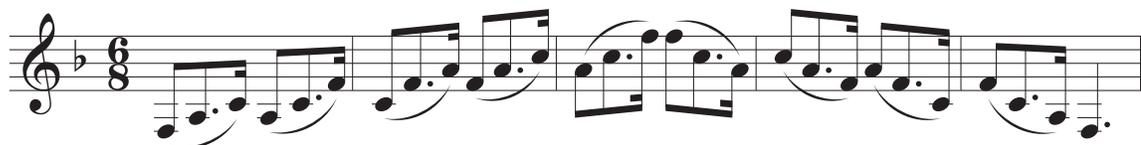
Musical examples 4.14, 4.15, and 4.16 utilize rhythmic variation on the same three-note *arpeggio*. In addition to varied rhythm, there are also changes in articulation. To maintain tonal evenness with the eighths, it is best to place a slight breath accent on the sixteenth note in each exercise. One should play each of these exercises slowly and accurately, gradually increasing in speed, as able.

Musical Example 4.14. *Arpeggio* with rhythmic variation

The image displays four staves of musical notation, each representing a different rhythmic variation of a three-note arpeggio. The notation is written in a single system with four staves. The key signature is one flat (B-flat), and the time signature is 6/8. Each staff begins with a treble clef and a 6/8 time signature. The first staff shows a simple eighth-note arpeggio: G4 (quarter), A4 (quarter), B4 (quarter). The second staff introduces a dotted quarter note followed by an eighth note: G4 (dotted quarter), A4 (quarter), B4 (quarter). The third staff uses a dotted eighth note followed by a sixteenth note: G4 (dotted eighth), A4 (quarter), B4 (quarter). The fourth staff features a dotted quarter note followed by an eighth note, with a slur over the last two notes: G4 (dotted quarter), A4 (quarter), B4 (quarter). The notation includes various articulation marks such as slurs and accents to indicate the intended performance style.

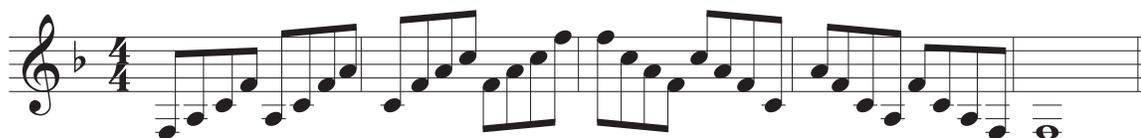


Musical Example 4.16, cont.



Fox's four-note *arpeggio* variation is shown in musical example 4.17.<sup>170</sup> Printed in the key of F major, these eventually should be played regularly in all major and minor keys. Musical example 4.18 demonstrates the *arpeggio* with varied articulations. And, musical example 4.19 shows a rhythmic variation on the same four-note *arpeggio*. Referring to both scale and *arpeggio* practice, Fox recommends, "One should do at least two different keys a day, or two different scales each day, thus over a period of a week covering all the scales from six sharps to six flats!"<sup>171</sup>

Musical Example 4.17. Four-note *arpeggio* exercise (Fred Fox)




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170. Fred Fox, *Essentials of Brass Playing : An Explicit, Logical Approach to Important Basic Factors that Contribute to Superior Brass Instrument Performance* (Los Angeles: Fox, 1974), 59.

171. Ibid.

Musical Example 4.18. Four-note *arpeggio* exercise with articulations (Fred Fox)

The image displays five staves of musical notation for a four-note arpeggio exercise. Each staff begins with a treble clef and a key signature of one flat (B-flat). The exercise consists of four notes: G2, B-flat2, D3, and F3. The notes are played in a sequence across the staves, with various articulations such as slurs, accents, and breath marks. The first staff shows the notes with slurs and accents. The second staff adds breath marks. The third staff introduces slurs and accents. The fourth staff combines slurs, accents, and breath marks. The fifth staff shows the exercise with slurs and accents. The exercise is repeated five times across the five staves.

Musical Example 4.19. Four-note *arpeggio* exercise with rhythms (Fred Fox)

The image displays a single staff of musical notation for a four-note arpeggio exercise. The staff begins with a treble clef and a key signature of one flat (B-flat). The exercise consists of four notes: G2, B-flat2, D3, and F3. The notes are played in a sequence across the staff, with various rhythms such as eighth notes, quarter notes, and half notes. The exercise is repeated five times across the single staff.

Agility and verticality are closely linked, if not inseparable. As stated previously, agility refers to moving quickly with ease between registers while maintaining a consistently beautiful sound. Moving quickly between registers requires swift movement over large intervals. An artist typically approaches a musical line in a horizontal manner, focusing on phrasing. When a musical line includes large intervals, they are considered

“vertical”— at least visually. It may take mental effort for a horn player to overcome the visual obstacle of a highly vertical line. This can be done when equipped with the following techniques to successfully maneuver between registers.

Due to the verticality of musical examples 4.17 through 4.19, one must employ a steady release of air to achieve consistency in tone and dependability of pitches. To accomplish this, there must be sufficient air intake and continuously firm abdominal support followed by a steady release of air. Initially developed through long tone exercises, controlled air release can now be applied to eighth note *arpeggios*. When practicing *arpeggios* with dotted rhythms, the sixteenth note should be accented with air, requiring a sudden firming of the abdominal muscles to achieve the desired effect.

Agility is vertical by nature. The development of agility, then, requires one to practice exercises that increase flexibility. Lip flexibility is developed through the practice of slurred *arpeggios*. As the intervals increase in size, tongue placement must change. Tongue placement is best referred to by means of vowels. A horn player must first become familiar with vowel formation in each register. Each horn register, found in APPENDIX B, requires a different vowel shape within the mouth. The low register is “oh,” middle register is “ah,” and the upper register is “ee.”

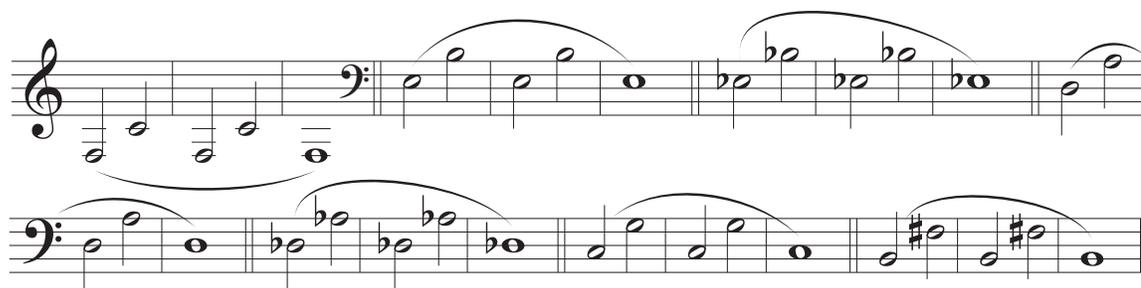
When navigating from one register to another, the tongue position must change to equalize tone quality. This also enables one to play accurately. The vowel change from low to middle register is “oh-ah.” Isolated ascending intervals in musical example 4.20 provide familiarity with this low to middle register vowel change. When playing the low

pitch with an “oh” vowel shape, one must also move the lower jaw down, while keeping mouth corners firm, to create a vertical opening between upper and lower teeth. Coupled with vowel formation, this jaw movement will enable the lower note to center properly.

Conversely, when descending, the middle to low register vowel change is “ah-oh.”

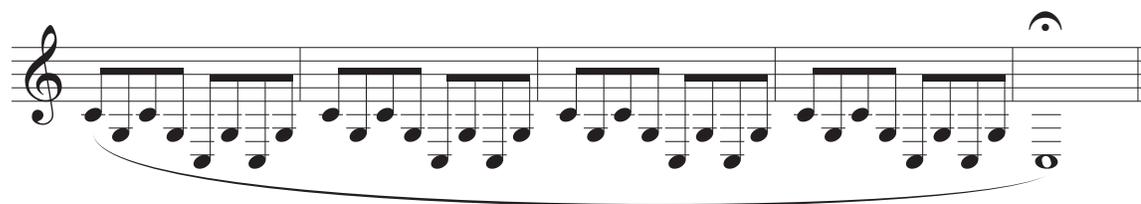
Musical example 4.20 should be played on the B-flat natural horn until the c-g, where it changes to the F horn.

Musical Example 4.20. Isolated intervals low-middle register



An exercise in *Horn Playing: A New Approach* by John Burden, musical example 4.21,<sup>172</sup> is helpful for advancing technique from low to middle register.

Musical Example 4.21. Middle to low register exercise (John Burden)



13.

172. John Burden, *Horn Playing: A New Approach* (London: Paterson's Publications, LTD., n.d.),

When maneuvering between the middle and upper registers, the vowel change is “ah-ee.” Ideal for upper register notes, the “voice box,” or rather the resonance chamber, becomes smaller within the mouth as the vowel “ee” is formed. When the middle of the tongue is rising to form an “ee,” it is very important for one to maintain an open throat. Give the lower abdominal support an extra boost for the upper note when ascending. Fred Fox uses the term “accordion effect” to describe the additional support employed at the moment one plays a high(er) note. He explains, “The higher you play, the lower down, or the stronger is the diaphragm support used. As you descend from the high note, the lower diaphragm eases. As you go higher, it tenses again.” He goes on to say,

The lower diaphragm relaxes after the highest note is played and thus can be used again whenever the next highest note occurs. With some practice, the “accordion effect” will keep the throat open at all times. This is one of the most important factors in effective wind playing tone production.<sup>173</sup>

This “accordion effect,” as described by Fox, will provide additional support for the upper note while at the same time opening the throat as needed for a beautiful tone in the upper register. Musical example 4.22 demonstrates a useful exercise for a horn player to practice the changes between middle and upper registers. One should play this exercise with normal fingerings on either the B-flat or F horn.

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173. Fred Fox, *Essentials of Brass Playing : An Explicit, Logical Approach to Important Basic Factors that Contribute to Superior Brass Instrument Performance* (Los Angeles: Fox, 1974), 36.

## Musical Example 4.22. Isolated interval exercise middle-high register



To improve the middle to upper register vowel technique further, John Burden's exercise,<sup>174</sup> musical example 4.23, begins in the middle register and progresses into the high register.

## Musical Example 4.23. Middle-high register slurred fourths (John Burden)

The transition from the low to middle register is notoriously challenging for horn players. Pitches at which the jaw must open when descending and close when ascending can benefit from exercises specifically bordering the middle and low registers. Typically, the transition is from f through a. Exercises to practice this register transition, shown in musical examples 4.24 and 4.25, are of a type that have been transmitted from teachers to students for generations and resemble exercises in Herbert L. Clarke's *Technical Studies*

<sup>174</sup> John Burden, *Horn Playing: A New Approach* (London: Paterson's Publications, LTD., n.d.), 25, ex. 54.

for the Cornet.<sup>175</sup> A horn player should practice chromatic exercises daily to improve this transition between registers.

Musical Example 4.24. Chromatic exercise no. 1

It is also beneficial to expand this exercise, descending chromatically as seen in musical example 4.25.

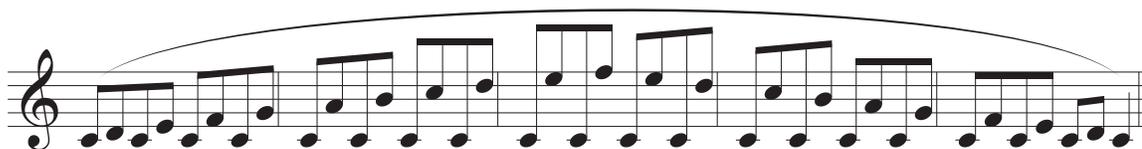
Musical Example 4.25. Chromatic exercise descending no. 2

As a horn player becomes familiar with general vowel placement in the three registers, one can then practice vertical movement within each register. Musical example 4.26 demonstrates a vertical exercise for the middle register. As the intervals increase, the

175. Herbert L. Clarke, *Technical Studies for the Cornet* (New York: Carl Fischer, 1934), 5.

change in tongue position becomes more pronounced. Continuous buzzing of the lips and continuously steady air must be maintained throughout the exercise.

Musical Example 4.26. Increasing interval exercise within a register



Musical examples 4.27, and 4.28 are chromatic versions of vertical movement within the middle register by Burden.<sup>176</sup> One must make minute changes to optimize resonance for each note and keep the airstream moving and buzz constant.

Musical Example 4.27. Increasing interval exercise within a register—slurred chromatic

176. John Burden, *Horn Playing: A New Approach* (London: Paterson's Publications, LTD., n.d.),

Musical Example 4.28. Increasing interval exercise within a register—tongued chromatic

The musical notation consists of two staves of a treble clef. The first staff contains six measures of eighth-note pairs with upward accents (>). The notes in the first measure are G3 and A3, in the second B3 and C4, in the third D4 and E4, in the fourth F4 and G4, in the fifth A4 and B4, and in the sixth C5 and B4. The second staff contains six measures of eighth-note pairs with upward accents (>). The notes in the first measure are B4 and C5, in the second D5 and E5, in the third F5 and G5, in the fourth A5 and B5, in the fifth C6 and B5, and in the sixth A5 and G5. The exercise concludes with a whole note on G4.

As vertical movement within each register becomes familiar, one can then practice exercises to improve movement between registers, as demonstrated in musical examples 4.29, 4.30 and 4.31. To facilitate ease in vertical movement, lighten the top note and play the lower note full length and with a slight breath accent. The upper note speaks with *faster* air, but *increased* air volume is not necessary. If too much air is forced into the top note, the tone will be strident and sound overblown. One must keep it light.

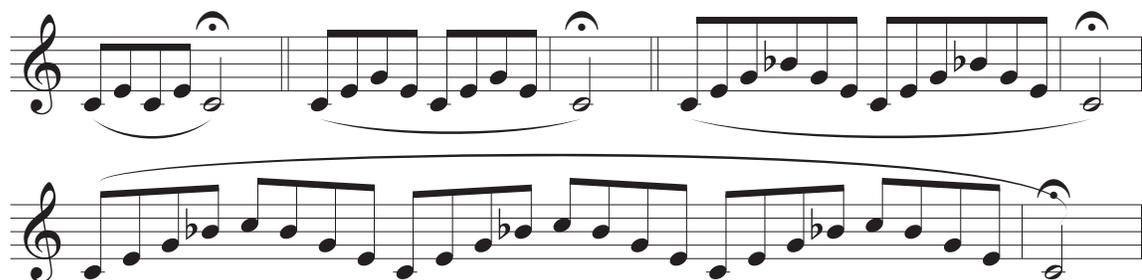
Musical Example 4.29. Increasing interval exercise—middle and low registers

The musical notation is on a single staff of a bass clef. It begins with a quarter note on G2, followed by a series of eighth-note pairs with upward accents (>). The notes in the first pair are G2 and A2, in the second B2 and C3, in the third D3 and E3, in the fourth F3 and G3, in the fifth A3 and B3, in the sixth C4 and B3, in the seventh A3 and G3, in the eighth F3 and E3, in the ninth D3 and C3, and in the tenth B2 and A2. The exercise concludes with a whole note on G2.

Musical Example 4.30. Increasing interval exercise—middle and high registers

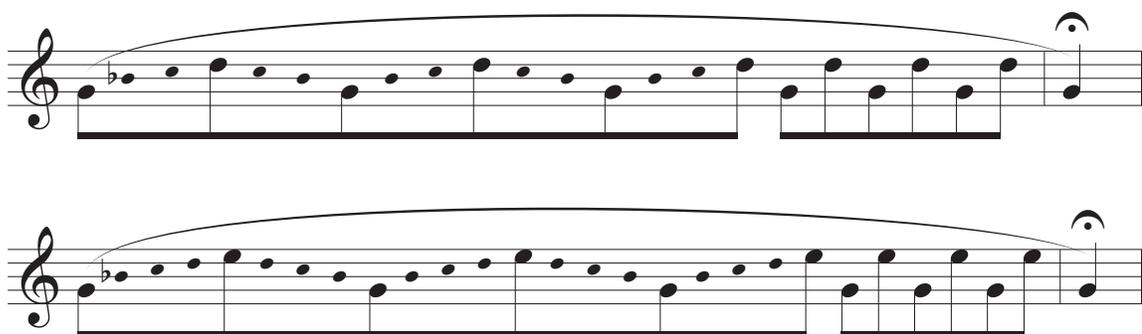


Musical Example 4.32. Middle register *portamento* exercise



As shown in the following exercise, musical example 4.33, one should initially include the intervening harmonics between each interval and then progress to smooth movement without the harmonics sounding. To eliminate the harmonics, lips continue buzzing both on and between notes, but the vowel change occurs more quickly. As the interval becomes larger, one should increase the abdominal firmness during the ascent while gradually changing the vowel formation from “ah” to “ee.” Vowel change will take place quickly to achieve a smooth slur without intervening harmonics.

Musical Example 4.33. Middle to upper range *portamento* exercise



## Musical Example 4.33, cont.

Developing a light mechanism in the upper register allows for freedom and agility in vertical horn playing. One should think of the high register as having a light, flute-like quality. Lower pitches act as a springboard to the upper pitches, so they must be centered to provide a firm foundation. In the following musical examples 4.34 through 4.37, one can gradually increase the range both lower and higher on the natural horn (See APPENDIX A for fingerings). In musical example 4.34, the lowest note should be full length and the vowel must gradually change to “ee” in the ascent, as the abdominal support is increased simultaneously. Giving a surge of support on the top note will help the throat stay open for a full, resonant sound. Maintain abdominal support, but with slight relaxation on the descent to allow for an increase of support in the next ascent.

## Musical Example 4.34. Light mechanism development on natural horn—middle to high

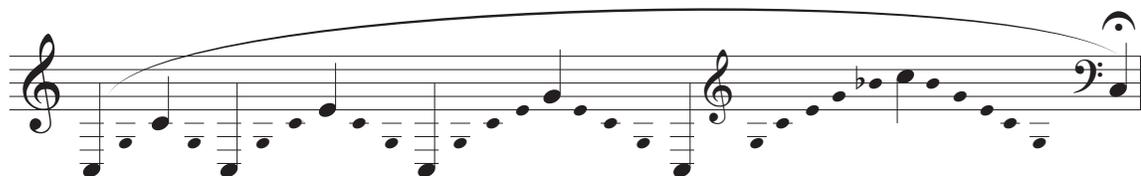
Vowel placement is unique for each register. The feeling experienced for each vowel is also unique. To differentiate between registers, one can choose to focus on the feeling of resonance in the face and head. During vertical movement between registers, there may be a feeling of resonance traveling up and down the front of the face. For example, in the low register the resonance produced by the vowel shape “oh” may be felt at the chin. Ascending, the resonance produced by the vowel shape “ah” may be felt in the nose, and while producing the vowel shape “ee” in the high register one may feel resonance in the forehead.

Musical example 4.35 is a natural horn exercise that moves from the low register to the middle register. Initially, the intervening harmonics can be included. One should then gradually increase the speed between notes to eliminate the intervening pitches, resulting in a smooth slur from the lower to the upper note, as shown in musical example 4.36.

Musical Example 4.35. Light mechanism development on natural horn—low to middle



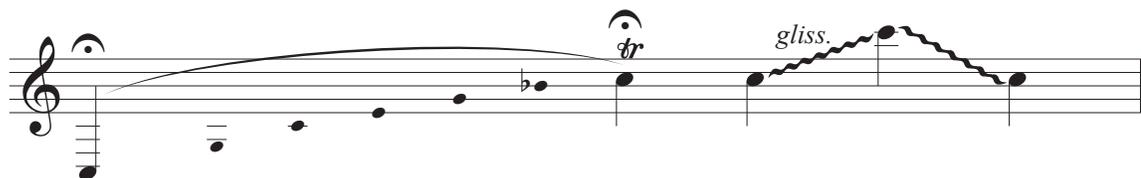
Musical Example 4.36. Light mechanism development on natural horn—low to middle



Ultimately, one can combine all three registers, as demonstrated in musical example 4.37.

Firm abdominal support with changes of vowel placement will facilitate playing with agility and ease. The trill is optional.

Musical Example 4.37. Light mechanism development on natural horn—low to high



There are three things to consider in producing a beautiful slur: coordination of lips, vowel position of the tongue, and abdominal breath support. These serve to focus pitches with accuracy, regardless of interval size.

In tongued passages, it is necessary for a horn player to articulate the attack of a note. However, over-articulation on horn can not only be a hindrance to beautiful legato, but can also prevent one from moving quickly and easily. Just as over-emphasis of consonants results in dreaded “diction singing”, over-emphasis of the note attack is also detrimental to a beautiful sound on the horn. When used correctly, however, articulation can be used to facilitate vertical movement, allowing register changes to take place

smoothly and with ease. To accomplish this, the tongue must move swiftly to facilitate the vowel placement for the note which follows. Student of Arnold Jacobs and respected British brass pedagogue Kristian Steenstrup reflects on Jacobs' connection of wind articulation with singing. "If the wind player 'sings' the music with the relevant articulation, the tongue will be accurately controlled by the parts of the brain responsible for the automated control of the speech sounds. Playing a wind instrument should not involve the tongue in an articulatory fashion more than in speech or singing."<sup>177</sup> Steenstrup goes on to elaborate Jacobs emphasis on the vowel following the attack, rather than emphasis on the attack itself (as in diction singing): "He wanted to encourage the student to place more emphasis on the vowel following the attack, so the wind player thinks tOH instead of Toh. In this way, the tongue more rapidly leaves its consonant blocking of the air stream, so the lips are able to vibrate."<sup>178</sup> As the lips vibrate freely and vowels are the emphasis, smooth connection and ease of movement flow freely.

In addition to lip coordination, vowel position of the tongue and solid abdominal support being reinforced by the slurring techniques, an articulated passage can be made more secure through special tonguing technique. Best utilized in an articulated vertical passage, this tonguing technique helps improve accuracy of large intervals by ending one note while simultaneously attacking the next note. Musical example 4.38 demonstrates

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177. Kristian Steenstrup, *Teaching Brass*, 2nd rev. ed. (Aarhus (Denmark): Royal Academy of Music, 2007), 101.

178. *Ibid.*

this technique from the middle to high register. Notice that the consonant that ends note  $c^1$  attacks the beginning of note  $f^2$ .

Musical Example 4.38. Consonant connection for agility—isolated leaps



The action of the tongue on the consonant “t” connects the two pitches swiftly and accurately, while the changing of the vowel by the tongue helps center and improve the changing registers’ tone. This is an especially useful technique for large interval leaps at a fast tempo. One can practice isolated large intervals such as in musical example 4.38, progressing to consecutive large interval leaps as in musical example 4.39.

Musical Example 4.39. Consonant connection for agility—consecutive leaps



The tongue ending the first note and simultaneously striking the second higher note provides a clean and smooth connection at a fast tempo. This technique can be applied to increasingly larger interval leaps from the lowest to the highest notes, as seen in musical example 4.40. To attack the low note  $c$ , the jaw must be slightly open and the

attack is a firm “th” low on the back of the front teeth. The “t” which attacks the higher note is articulated increasingly toward the roof of the mouth as the pitches go higher.

Musical Example 4.40. Consonant connection for agility—large leaps

"thoht - tah" "thoht - tah" "thoht - tah" "thoht - tee" "thoht - tee" "thoht - tee" "thoht - tee" "thoht - tee"

One must attempt to keep high notes as light as possible, allowing the tongue to pop it out using fast air with strong abdominal support, rather than overblowing the upper note with a large volume of air. Connecting two notes by means of the consonant “t” at a fast tempo enables one to play cleanly with a light mechanism in tongued passages that require agility.

Agility is one of the trademarks of *bel canto* style in both singing and horn playing. It is a valuable skill to develop on the horn. *Bel canto* repertoire commonly includes sections of rapid passagework which require the use of a light mechanism. Four fundamental techniques for the development of agility include: stable breath control, lip and finger coordination, navigation between registers, and light tone in the upper register. The practice of these techniques will result in a mastery of agility and prepare one to play *bel canto* repertoire with beauty and ease.

CHAPTER V  
MUSICAL EXPRESSION

There is ample support in the literature<sup>179</sup> for the understanding of musical expression as primarily a function of tempo (timing) and dynamic variations. Personal expression in music performance is brought about by the individual performer's choices in interpreting the composer's written notation. In short, what you see is not necessarily what you hear. Music theorist Leonard Meyer notes, "a musician's deviations from the notated music are critical to delivering an affective aesthetic experience"<sup>180</sup> In a significant recent study on emotional expression in musical performance, it was observed that "expressive performance in Western classical music is largely based on systematic variation of duration and intensity . . . expert musicians rarely play a score as written; instead, they introduce intentional variations in timing, amplitude and timbre."<sup>181</sup> In the 2011 article, "Perception of Emotional Expression in Musical Performance,"<sup>182</sup> Anjali Bhatara, et al "explored the relationship between acoustic parameters of a performance

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179. For example: Caroline Palmer, "Anatomy of a Performance: Sources of Musical Expression," *Music Perception: An Interdisciplinary Journal* 13, no. 3 (Spring 1996): 433-453; Neil P. McAngus Todd, "The Dynamics of Dynamics: A Model of Musical Expression," *J. Acoust. Soc. Am.* 91, no. 6 (June 1992): 3540-3550; Bruno Repp, "A Constraint on the Expressive Timing of a Melodic Gesture: Evidence from Performance and Aesthetic Judgment," *Music Perception: An Interdisciplinary Journal* 10, no. 2 (Winter 1992): 221-241; and Patrik N. Juslin, "The Five Facets of Musical Expression: A Psychologist's Perspective on Music Performance," *Psychology of Music* 31, no.3 (July 2003): 273-302.

180. Anjali Bhatara, Anna K. Tirovolas, Lilu Marie Dunn, Bianca Levy, and Daniel J. Levitin, "Perception of Emotional Expression in Musical Performance," *Journal of Experimental Psychology: Human Perception and Performance* 37, no. 3 (2011): 921.

181. Ibid.

182. Anjali Bhatara, Anna K. Tirovolas, Lilu Marie Dunn, Bianca Levy, and Daniel J. Levitin, "Perception of Emotional Expression in Musical Performance," *Journal of Experimental Psychology: Human Perception and Performance* 37, no. 3 (2011): 921-934.

(timing and amplitude variation) and psychological parameters (subjective ratings of emotional expressivity),”<sup>183</sup> to conclude that variations of tempo and loudness are most clearly linked to the communication of emotional expressivity in a musical performance.

Musical expression transforms an impressive technical display into a meaningful artistic performance. Artistic horn playing is notable for both technical expertise and expressive nuances reflecting a performer’s personal musical feelings. Personal emotion expressed through music is the means to successfully communicate with an audience. Although technical perfection is a magnificent display of hard work and discipline, and acquiring the finest technical expertise for any musician is an impressive accomplishment, the ultimate goal for an artist musician is to be so technically secure as to be musically free. Mathilde Marchesi, *bel canto* pedagogue and student of Manuel García II, emphasizes the necessity of establishing technique to produce musical freedom, “Every art consists of a technical-mechanical part and an aesthetical (*sic*) part. A singer who cannot overcome the difficulties of the first part can never attain perfection in the second, not even a genius.”<sup>184</sup> Consequently, accomplished technique enables a performer to make musical expression the primary focus, allowing for musical freedom. Both technical perfection and musical expression are hallmarks of the *bel canto* style. Manuel García emphasized the importance of technique at the outset of his book, *Hints*

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183. Ibid.: 921.

184. Mathilde Marchesi, *Bel Canto: A Theoretical and Practical Vocal Method* (n.d.; reprint, New York: Dover Publications Inc., 1970), xviii.

*on Singing*.<sup>185</sup> He states that the goal of vocal study is “to make the voice irreproachable in its intonation, firm, strong, flexible, extended, and to correct its faults.”<sup>186</sup> Continuing, he emphasizes the importance of musical expression in that the object of vocal study is also “to teach the student the art of phrasing, to familiarize him with the different styles, and to develop his expression.”<sup>187</sup>

Technique, once developed, serves musical expression. Twentieth-century *bel canto* authority Cornelius Reid explains this point of arrival for a singer, “When a stage of training has been reached where the voice is produced spontaneously and without conscious effort, the singer is free to give his entire attention to musicianship and interpretation.”<sup>188</sup> In his *Dictionary of Vocal Terminology*, Reid further describes the significance of joining technique with expression,

The artist in performance, therefore, should have already acquired the technical skills necessary to establish himself as a professional, and these skills must, through practice, become ingrained in the subconscious. In company with the instrumentalist, the singer must take his technique for granted as he immerses himself in the communicative experience. To do otherwise is to produce tone, perhaps even beautiful tone, without ever addressing oneself to the *art* of singing.<sup>189</sup>

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185. Manuel del Pòpulo Vicente Rodríguez García, *Hints on Singing*, rev. ed., trans. Beata García (London: E. Ascherberg & Co., 1894), 1.

186. *Ibid.*

187. *Ibid.*

188. Cornelius L. Reid, *Bel Canto Principles and Practices* (New York: Coleman-Ross Company, Inc., 1950), 53.

189. Cornelius L. Reid, *A Dictionary of Vocal Terminology: an Analysis* (1983; reprint, Huntsville, TX: Recital Publications, 1994), 27.

Dedicated cultivation of technique through exercises builds a technical foundation that ultimately feels natural. And, when technical skill becomes second nature, one is able to focus on expression and communication.

Expression is “the process of making known one's thoughts or feelings.”<sup>190</sup>

Hence, musical expression is, by nature, a communication to a listener through music.

Cornelius Reid further describes musical expression for a singer in the following manner:

Expressive singing is a complex amalgamation of verbal expression (expression through words), musical expression (expression through sound), and self-expression. Although feeling may be refined through disciplined thought and language, it is sound itself—its quality, texture and inflectional nuance—which raises the communicative experience in singing to its highest level. Personal feelings can be an embarrassment unless they reveal an inner vision which establishes a common bond between the performer, the audience and the material being presented. To succeed in this is the ultimate responsibility of the artist.<sup>191</sup>

Although a horn player cannot communicate with words as a singer can, one can be musically expressive through sound. As Reid emphasizes, it is “sound itself—its quality, texture and inflectional nuance—which raises the communicative experience in singing to its highest level.”<sup>192</sup>

Every musician likely has a preconceived idea of the sound before producing it.

Then, to a certain degree, the body naturally adjusts to produce the imagined sound.

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190. Oxford Dictionaries, s.v. “expression,” accessed November 09, 2012, <http://oxforddictionaries.com/definition/english/expression>

191. Cornelius L. Reid, *A Dictionary of Vocal Terminology: an Analysis* (1983; reprint, Huntsville, TX: Recital Publications, 1994), 106.

192. *Ibid.*

Additionally, one must make musical statements, outwardly expressing the music as it is felt, ultimately focusing on expression rather than technique. Arnold Jacobs described his own approach to producing sound in terms of singing,

I sing in my head what has to go out of the horn. . .my whole concentration is not on what I feel like or what I sound like, but what I want the audience to hear. It's like telling a story, but instead of words you tell it with concepts of sound.<sup>193</sup>

For a horn player to communicate musically at an artistic level, expression through sound is necessary. One must imagine the beautiful sound prior to playing to produce beautiful music.

Personal sound is cultivated over time. Development of technique through exercises is necessary to the development of sound, but one also needs to listen to music to develop an artistic sound concept. A student of music first listens to accomplished musicians, imitating what is heard, then develops one's own sense of style. Music education professor Robert H. Woody suggests that aural modeling (the student imitating the teacher's performance) is essential in learning the complexities of expressive musical performance.<sup>194</sup> British author Kristian Steenstrup comments on the value of listening and imitation for a brass player: "The student can imitate a great player by listening. . .and really get into emulating the finest details of timbre, phrasing, rhythm, articulation,

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193. Brian Frederiksen, *Arnold Jacobs: Song and Wind*, edited by John Taylor (Gurnee IL: WindSong Press Limited, 1996), 138.

194. Robert H. Woody, "Explaining Expressive Performance: Component Cognitive Skills in an Aural Modeling Task," *Journal of Research in Music Education* 51, no. 1 (Spring, 2003): 51-63.

vibrato, etc., and even the sound of the performer's breaths."<sup>195</sup> He goes on to explain the resulting personalization of musical expression: "After periods of conditioning in this way, the student will know, and be able to perform on his own, music in many different styles, thus building his own creativity and personal artistic choices on the traditions of his finest predecessors."<sup>196</sup> Students may not be expected to produce beautiful sounds if they have never heard beautiful sounds.

*Bel canto* tradition originated as a tradition of imitation. Twentieth-century performer, teacher and author, Lucie Manén explains the imitative approach in early *bel canto* teaching,

The tuition of *Bel Canto* was not based on any explicit theoretical method. Its teachers, the *maestri*, were themselves expert performers. They instructed their pupils in the same way that they themselves had learned, by trial and error, until their pupils were able to achieve the right vocal quality. This entirely empirical method, with its unremitting process of trial and correction, relied heavily on the accuracy of the pupil's hearing and the acute ear of the teacher.<sup>197</sup>

An imitation-based pedagogy was predominant in voice studios beginning with Manuel García (the father), García (the son), Lamperti, and subsequent generations of teachers and students. This pedagogy would be recognized as a trademark of the inheritance of singers who claim a *bel canto* genealogy.

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195. Kristian Steenstrup, *Teaching Brass*, 2nd rev. ed. (Aarhus, Denmark: Royal Academy of Music, 2007), 52-53.

196. *Ibid.*, 53.

197. Lucie Manén. *Bel Canto: The Teaching of the Classical Italian Song-Schools, Its Decline and Restoration* (N.d.; reprint, New York: Oxford University Press, 2004), 3.

Changes of dynamics and the alteration of time through the use of *tempo rubato* (literally “stolen time”) primarily contribute to musical expression on horn. In the performer’s guide,<sup>198</sup> comments about musical expression are primarily concerned with the variation of dynamics and time as means for a horn player to perform expressively.

Dynamics reflect the variation of sound power. While one may think of dynamics in terms of loudness, or intensity, there is no question that dynamic variation is used to provide both direction of the phrase and meaning in music. *Bel canto* singers are dedicated to the practice of *messa di voce*, a balanced *crescendo* and *diminuendo* on a single note. The purpose of *messa di voce* is to both strengthen weak notes of a register and develop breath control. When notes are consistently strong and dependable throughout the entire range, regardless of dynamic, a singer can then sing through any musical line smoothly and confidently. Cornelius Reid describes the purpose of *messa di voce*:

In advanced stages of training the performance of the *messa di voce* must be practiced continually until there is an exact matching of both quality and intensity at the point of transition. After this technique has been mastered the ‘break’ disappears, and the singer is able to pass freely from one register to the other, from soft to loud and from loud to soft, without difficulty. This is the kind of technique that the early masters described as ‘the art of producing the voice.’ This is the singing style known as *Bel Canto*.<sup>199</sup>

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198. see Chapter VI, Performer’s Guide, 142

199. Cornelius L. Reid, *Bel Canto Principles and Practices* (New York: Coleman-Ross Company, Inc., 1950), 98.

Reid also emphasizes the importance of this technique in creating musical interpretation and expression:

A successful performance of the *messa di voce* provides a graphic illustration of the close alliance that must exist between technically correct singing and artistic singing. Once the voice becomes free and flexible throughout its range, interpretive effects may be made because of musical necessity and not out of consideration for deficiencies of technique.<sup>200</sup>

It is not surprising, then, that *messa di voce* is considered to be an advanced technique.

William Shakespeare, student of the great *bel canto* pedagogue Francesco Lamperti, defines and explains the significant technique of *messa di voce* in this way:

This is the art of commencing a note *pp*, increasing its force and intensity in the highest possible degree, and then returning without loss of quality to *pp* again. Its achievement was formerly considered the culminating effort of the singer. The study of it was reserved for the closing period of his apprenticeship, requiring as it does a considerable experience of breath-control, so that when reinforcing the pressure of the breath and adding to this power of voice he should not fall into the error of bringing into action a constricted throat and revert to a state of original sin.<sup>201</sup>

Francesco Lamperti's son, Giovanni Battista Lamperti, verifies the essential role of breath control in mastering *messa di voce*: "The *Messa di voce* is produced solely by breath-control. The spinning-out of the tone is very difficult; it must be managed with the utmost circumspection."<sup>202</sup> *Messa di voce*, therefore, is

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200. Cornelius L. Reid, *Bel Canto Principles and Practices* (New York: Coleman-Ross Company, Inc., 1950), 98.

201. William Shakespeare, *The Art of Singing* (Bryn Mawr, PA: Oliver Ditson Co., 1898), 126.

202. G. B. Lamperti, *The Technic of Bel Canto*, translated by Theodore Baker (New York: G. Schirmer, 1905), 21.

useful for both training in breath control and for strengthening weaker notes of a vocal register.

David Hays, in his dissertation “The *Messa Di Voce* as an Ornament in the String Playing of the Seventeenth, Eighteenth and Nineteenth Centuries”<sup>203</sup> explores the *mesa di voce* as an ornament of expression used by both singers and instrumentalists. The swell was used on long note exercises with the purpose of gaining the control necessary to perform with an appropriate degree of musical nuance and expression. Horn players are dedicated to practicing *mesa di voce*, the dynamic swell of *bel canto* singers, on long tones. The development and use of *mesa di voce* produces steadiness of the air stream and improves intonation, a result of well-developed breath control.<sup>204</sup> One should practice the technique throughout the full range of the horn to produce a beautiful, consistent sound from *pianissimo* to *fortissimo* on every pitch. Having improved breath control throughout the full range, a horn player then becomes capable of variation in dynamics and free musical expression. One such opportunity for dynamic musical expression is demonstrated in musical example 5.1, an excerpt from *Concerto for Horn* by Saverio Mercadante (1795-1870). A gentle *crescendo* should be made from the opening three repeated notes through the four-note peak of the phrase,

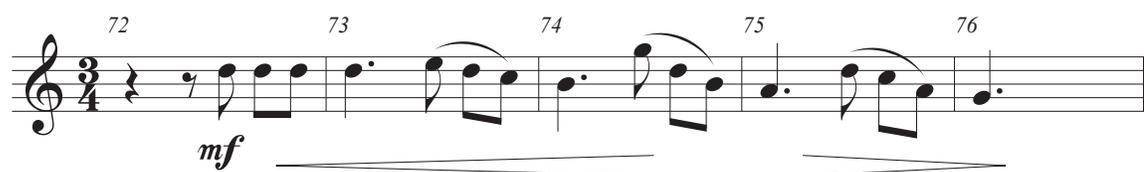
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203. David Hays, “The *Messa Di Voce* as an Ornament in the String Playing of the Seventeenth, Eighteenth and Nineteenth Centuries,” (D.M. diss., Northwestern University, 2000).

204. see also: Chapter III, Horn Playing, 78 and Chapter III, Singing, 65.

before the *diminuendo* brings the phrase to a close. Steady air enables the phrase to be well-balanced with elegance.

Musical Example 5.1. Mercadante, Concerto, mm. 72-76



Musical expression depends on both steady air and the ability to freely move between registers without an unintended change in sound quality. The practice of *messa di voce* helps develop this skill. It is closely related to *bel canto* tonal registration (see Definitions, APPENDIX C) and the development of one's ability to sing with consistency of tone throughout all registers. The essence of *bel canto*, for either a singer or a horn player, depends on masterful registration. Reid reinforces its significance and necessity in the *bel canto* style:

The question of registers occupied the thinking of serious teachers of voice from the earliest times until the end of the nineteenth century. . .registration was the foundation upon which *Bel Canto* training procedures succeeded in 'building' the vocal techniques that will forever remain a source of astonishment and wonder.<sup>205</sup>

In addition to dynamic variation, one can employ the technique of *tempo rubato* for expression. Use of *tempo rubato*, varying time within a phrase, is a particularly important expressive *bel canto* technique. To employ *tempo rubato*, one must slow the

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205. Cornelius L. Reid, *A Dictionary of Vocal Terminology: an Analysis* (1983; reprint, Huntsville, TX: Recital Publications, 1994), 23.

pulse to emphasize meaningful notes of a phrase, followed by an acceleration to resume the foregoing speed. Martha Elliott, in her book on vocal performance practices, describes *tempo rubato* as when “the soloist steals or borrows time, only to return it later in the measure or phrase.”<sup>206</sup> Manuel García, renowned early nineteenth-century *bel canto* tenor and master teacher, defines *tempo rubato* as,

A displacement of values (in melody) which increases the duration of some notes at the expense of others. This licence favours the expression of passion and aids the musical colouring, especially when repeating a phrase. To render the *tempo rubato* effective, the accompaniment must be kept strictly in time.<sup>207</sup>

Musical example 5.2 demonstrates the use of *tempo rubato* in the vocal part of Michael Balfe’s work, *Cantata: Sempre pensoso e torbido*. The eighth notes in measure 24 are in tempo. The first eighth note in measure 25 is lengthened, together with the thirty-second note immediately following. The remaining six thirty-second notes speed up, however, to recover the “stolen” time.

Musical Example 5.2. Balfe, *Cantata: Sempre pensoso e torbido*, mm. 24-25

De - i co - si spre - zar,

206. Martha Elliott, *Singing in Style: A Guide to Vocal Performance Practices* (Yale University Press, 2007), 134.

207. Manuel del Pòpulo Vicente Rodríguez García, *Hints on Singing*, rev. ed., trans. Beata García (London: E. Ascherberg & Co., 1894), 62.

*Tempo rubato* is distinguished from *rallentando* in that the accompaniment remains steady, while the melody takes liberty. During a *rallentando*, the melody and accompaniment stay together as the passage slows down. Also a valuable expressive technique, García describes the musical purpose of *rallentando*, “for the sake of giving greater grace and charm to some passage.”<sup>208</sup>

Singers trained in the *bel canto* tradition learn to improvise embellishments in arias as a means to personalize the musically expressive performance. The method used to train singers is largely aural, teachers demonstrating and students imitating. There are some nineteenth-century examples of the practice of embellishment in opera,<sup>209</sup> and a rich legacy of improvised embellishment in the many recordings of the *bel canto* operatic repertoire since the beginning of the twentieth century.<sup>210</sup>

In particular, singers interpolate cadenzas at cadence points, and modify the notated cadenzas to personalize them and take advantage of their particular vocal strengths. Runs, *arpeggios*, and ornamental figures such as trills are included in the cache of gestures typical of the *bel canto* performance. As is pointed out in the “Performing Practice” article in *Grove Music Online*, “Practices of ornamentation were varied. Italian opera was embellished well into the [19th] century and a number of examples of the

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208. Manuel del Pòpulo Vicente Rodríguez García, *Hints on Singing*, rev. ed., trans. Beata García (London: E. Ascherberg & Co., 1894), 61.

209. Laure-Cinthie Damoreau, *Classic Bel Canto Technique*. New English Translation and Introduction by Victor Rangel-Ribeiro. Milano: G. Ricordi & Co., 1849. Reprint, Mineola NY: Dover Publications, Inc., 1997.

210. Airlie Jane Kirkham, “An Aural Analysis of *Bel Canto*: Traditions and Interpretations as Preserved Through Selected Sound Recordings.” Master’s thesis, University of Adelaide, 2010.

practice are preserved, including those for arias by Rossini, Donizetti, Bellini and others prepared by the soprano Laure Cinti-Damoreau (*Méthode*, 1849).<sup>211</sup> Damoreau<sup>212</sup> provides a series of examples, the cadenza for the conclusion of the *cavatina* section of “Una voce poco fa”—Rossini’s aria from the opera *Il Barbiere di Siviglia*, reproduced here (musical example 5.3).

Musical Example 5.3. Rossini, *Il Barbiere di Siviglia*, aria: “Una Voce Poco Fa,” closing cadence of the *cavatina* section

The musical score is presented in two systems. The first system features a vocal line in G major with a treble clef and a piano accompaniment in the bass clef. The vocal line begins with a fermata on a whole note G, marked 'Ah!'. This is followed by a series of sixteenth-note runs. The tempo marking 'leggermente' is positioned above the vocal line. The system concludes with a fermata on a whole note G, marked 'la'. The second system continues the vocal line with a series of sixteenth-note runs, marked 'vin - ce-rò!'. The piano accompaniment provides harmonic support throughout, ending with a final chord in G major.

Also, Luigi Ricci’s *Variations, Cadenzas and Traditions for Voice*<sup>213</sup> is a virtual anthology of cadenzas and ornaments for the standard *bel canto* repertoire. Artistic horn playing is notable for both technical expertise and expressive nuances reflecting a

211. Howard Mayer Brown, et al. "Performing Practice." In *Grove Music Online*. *Oxford Music Online*, <http://www.oxfordmusiconline.com/subscriber/article/grove/music/40272pg1> (accessed September 16, 2012).

212. Laure-Cinthie Damoreau, *Classic Bel Canto Technique*, new English translation and introduction by Victor Rangel-Ribeiro (Milano: G. Ricordi & Co., 1849; reprint, Mineola NY: Dover Publications, Inc., 1997), 93.

213. Luigi Ricci, *Variations, Cadenzas and Traditions for Voice* (Milano: Ricordi, 1937).

performer's personal musical feelings. Musically expressive techniques give a performance meaning and uniqueness. In fact, personal expression is necessary to enable a horn player to communicate musically at an artistic level. Musical expression is not formulaic, for if expression becomes a formula, it ceases to be personal and loses the element of spontaneity that keeps music engaging to a listener. Personal musical expression, then, transforms an impressive technical display into a meaningful artistic performance. Additionally, employing *bel canto* expressive techniques such as variation in dynamics and *tempo rubato* enables one to communicate personal meaning in performance.

In conclusion, the performer's goal in employing the *bel canto* style is freedom of expression. Musical expression transforms an impressive technical display into a meaningful artistic performance. Accomplished technique enables one to freely express music artistically. Rigorous technical training enables one to master the mechanics of an instrument allowing for freedom of musical expression. Cornelius Reid described it well:

The end result of the study discipline demanded by the early teachers of *Bel Canto* was to free the mechanism, reveal its innate beauty, and provide a medium of artistic expression limited only by individual potential and the skill of the teacher. This training discipline, now only adhered to by instrumentalists, was both rigorous and effective. Its reward was the satisfaction gained from having achieved an artistic stature of the highest order.<sup>214</sup>

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214. Cornelius L. Reid, *A Dictionary of Vocal Terminology: an Analysis* (1983; reprint, Huntsville, TX: Recital Publications, 1994), 31.

## CHAPTER VI

### PERFORMER'S GUIDE

#### Introduction

This performer's guide features the application of *bel canto*-informed horn technique as applied to *bel canto* horn repertoire, with emphasis on artistic lyrical horn playing. For each piece, I will identify *bel canto* vocal techniques to be implemented and describe technical changes needed for register shifts, dynamic changes, smooth *legato*, etc. in order to achieve the desired *bel canto* qualities on the horn. The commentary may include identification of the phrase structure, indication of "pivot-point(s)" where appropriate, and discussion of the options for taking a breath.

#### Mercadante, *Concerto for Horn*

Saverio Mercadante (1795-1870) was extremely popular during his lifetime as a composer of opera in a style that bridged *bel canto* to Giuseppe Verdi. Michael Wittmann, in his *Grove Music Online* article, writes, "Mercadante's extraordinary fame during his lifetime was followed by comprehensive oblivion after his death. His works never became part of the established operatic repertory in the second half of the 19th century, and in the 20th century he was at best seen as a precursor of Verdi."<sup>215</sup> After a highly productive career as a professional opera composer, during which he succeeded Rossini as composer-in-residence at the San Carlo opera house, he won the position of director of

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215. Michael Wittmann. "Mercadante, Saverio." In *Grove Music Online*. *Oxford Music Online*, accessed September 17, 2012, <http://www.oxfordmusiconline.com/subscriber/article/grove/music/18426>

the Naples Conservatory (over Gaetano Donizetti, his chief competition for the position) and spent the last thirty years of his life there. His undated *Concerto for Horn in C* is part of a catalog of 20 concertos, mostly composed during his twenties. At that time, Mercadante, as a composition student of Niccolò Zingarelli at the Naples Conservatory, absorbed the compositional styles of several of the major composers of the early nineteenth-century (e.g. Haydn, Mozart, Danzi, Devienne, and Spohr). The operatic quality of the *Concerto in C* is unmistakable: although it is a through-composed piece, the form clearly follows that of the *cantabile/cabaletta* two-part aria typical of *bel canto* opera.

*Concerto for Horn* has two main sections: *Larghetto alla Siciliana* and *Allegretto brillante*. The entire *Larghetto alla Siciliana* section consists of expressive, *legato* melodies and the pulse, or beat, is in eighth notes with six eighths in each measure. The tempo is 132 to the eighth note. Beginning with the horn entrance in measure 7 one needs to maintain a continuous *portamento* buzz coupled with a steady airstream.

Musical Example 6.1. Mercadante *Concerto*, mm. 6-8

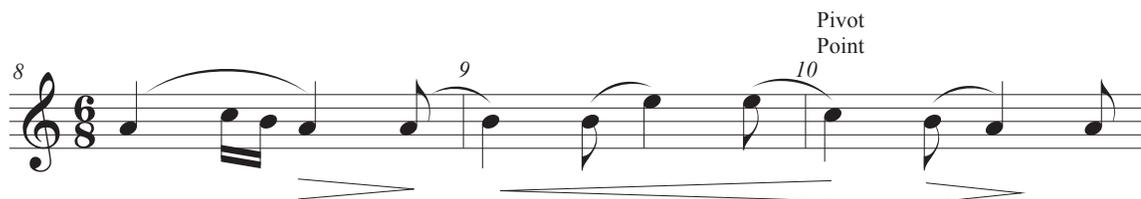
For the first repeated note,  $e^2$ , one should employ a very *legato* “dah” articulation taking care to prevent any extraneous sounds between the pitches. *Bel canto* singers

trained diligently to control the outflow of air in such a way that the pitches were very connected, had no intermediate interruptions and lasted to the end of every phrase. To have enough air to produce the perfect *legato*, take a slow generous breath in measure 6 during the rest that precedes the first note in measure 7 (see musical example 6.1). This *legato* melody should be seamless, played with a *portamento* buzz and with the feeling of air flowing through the buzz at all times.

As with most phrases, there is a pivot-point. A pivot-point refers to the culminating arrival point in a phrase, after which the phrase begins to taper off. There is a gradual *crescendo* building to the pivot-point and a gradual *decrescendo* following it. In this instance, I have placed the pivot-point at the beginning of measure 8. Measure 7, then, should lead to the downbeat of measure 8 followed by a *diminuendo* from that point to the quarter note on the second beat of measure 8. As the phrase builds to the pivot-point there should be a gentle, even *crescendo* through the pivot note before beginning the *diminuendo*. One should not diminish too much or too soon, or the end of the phrase in measure 8 will be lacking sufficient intensity. In the interest of playing perfectly *legato*, it is important to take great care to maintain the breath support for the descending fifth between the last note ( $e^2$ ) of measure 7 and the downbeat ( $a^1$ ) of measure 8. The  $a^1$  is *legato*-tongued (“dah”), but the air should keep moving forward into the tongued  $a^1$  in order to attain a smooth, uninterrupted *legato*. The air should move forward in the same manner as it does when slurring between notes.

No breath should be necessary before the second two-measure phrase (see musical example 6.2). Simply taper the sound on the last note of the first phrase (beats 4 and 5 of m. 8), then gently begin the second phrase with a *legato* “dah” tongue. Lead again to a pivot-point at the beginning of the second measure of the phrase, in this case measure 10.

Musical Example 6.2. Mercadante *Concerto*, mm. 8-10



It is desirable to maintain tonal evenness throughout *legato* melodies. One may discover that leaps of a fifth or more tend to suffer a change in tone quality. According to the *bel canto* tradition, one should maintain tonal evenness by considering register shift, vowel placement, breath control and a relaxed tone production. Likewise, for a horn player, vowel changes during the shift will not only assist in accuracy, but will also help keep the tone quality from changing. The first larger interval of a fifth or more occurs in measures 7 and 8 from the  $e^2$  to the  $a^1$ . Begin the first note of measure 7 with roundness that will match the roundness of the (lower)  $a^1$  at the phrase’s peak in measure 8. In order to do this, first keep the throat open and the air forward in the mouth as the phrase begins and proceed likewise. While keeping the throat open, begin the  $e^2$  with the vowel “ee” and when descending to the  $a^1$ , maintain good air support, changing the vowel to “ah.”

The open, relaxed throat will initially allow a large breath to be taken, and will assist in maintaining the evenness of tone desired for *bel canto* style as the phrase proceeds.

The third phrase, a four-measure phrase, begins on the pick-up to measure 11 slurring into the downbeat of measure 11 (see musical example 6.3).

Musical Example 6.3. Mercadante *Concerto*, mm. 10-14

The  $a^1$  pick-up should be articulated with a “dah” tongue while the vowel changes to “ee” precisely on the  $f^2$  in measure 11. The ascending sixth with a change in register is facilitated by the change in vowel and by increasing the air speed on the lower note prior to making the upward slur. The result will be “dah—ee” for a clean slur. It is helpful to lengthen the grace note in measure 11 and to keep the air and buzz constant throughout the entire phrase to achieve a smooth *legato*. The movement from note to note occurs quickly, after the airspeed has increased on the lower note prior to the upward slur. The tongued notes are a very *legato* “dah” or “dee,” but the tonguing should not actually be heard. When executed properly, all that is heard is beautiful, uninterrupted tone—no actual tonguing or extraneous sounds of any kind.

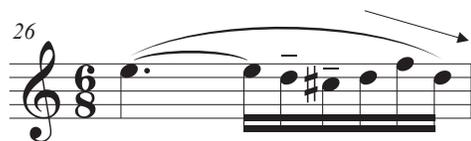
The four-measure phrase from measure 11 to 14 pivots on the quarter note in measure 13. After the pivot-note, keep the eighth note  $e^2$  long and lead it into the  $g^2$  in

time, but expressively extend the length of the  $g^2$  slightly and cascade down the sixteenth note run, accelerating slightly while descending. This expressive gesture ends the phrase in a musically satisfying way. There should be a subtle yet delightful *accelerando* through the descent to the  $a^1$ , finishing the phrase with a tapered  $g\#^1$  in measure 14.

The alteration of time from measure 13 to measure 14, extending the length of the  $g^2$  and the subsequent regaining of that time through the acceleration during the scale descent, is a common technique implemented by *bel canto* singers and is referred to as *tempo rubato*: extending a note slightly beyond its normal duration and then shortening the note values after it in order to make up for the time lost. Manuel García explains *tempo rubato* as, “A displacement of values (in melody) which increases the duration of some notes at the expense of others. This licence favours the expression of passion and aids the musical colouring, especially when repeating a phrase.”<sup>216</sup> The phrase, then, is personalized by the expressive technique, and prevents the scale and overall phrase from seeming purely mechanical. The result is an artistically expressive musical line. In measure 26 in the second half of the measure, the same technique can again be implemented (see musical example 6.4).

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216. Manuel del P.V.R. García, *Hints on Singing*, new & revised edition, translated by Beata García (London: E. Ascherberg & Co., 1894), 62.

Musical Example 6.4. Mercadante *Concerto*, m. 26

The *bel canto* singers avidly trained to develop the technique of agility. To be agile is “to move with quick, easy grace.”<sup>217</sup> Manuel García in his *Art of Singing* states that the style of agility, “owes its brilliancy to the rapidity with which notes are articulated.” He goes on to say, “the passages should be easy of execution—light and moderate in force.”<sup>218</sup> The training for agility included the establishment of singing fundamentals followed by specific exercises to improve velocity. A perfect *legato* being assumed, an agile technique required vocal production with a light mechanism in order to facilitate rapid movement from note to note.

In the same way, in order to perform rapid passages, the horn player needs to have training in flexibility and well-established fundamental technique. To move quickly and easily one needs to resist the attempt to play with a “big” sound, bearing down or pressing into the notes, and instead concentrate on phrase direction, *portamento* buzz and playing with a light concept. Musical example 6.5 shows the places (measures 18, 23, and 25) in the *Larghetto alla Siciliana* that require agility in rapid scale passages.

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217. Merriam-Webster OnLine, s.v. “agile,” accessed July 11, 2011, <http://www.merriam-webster.com/dictionary/agile>.

218. Manuel del P.V.R. García, *Hints on Singing*, new & revised edition, translated by Beata García (London: E. Ascherberg & Co., 1894), 62.

Musical Example 6.5. Mercadante *Concerto*, mm. 18, 23, and 25

To play the ascending scale passages in these measures, play the first note of the run full length, avoiding the tendency to hurry forward, and *crescendo* to the top note of the scale passage. In addition, one should attempt to keep the air moving and maintain a homogeneous tone quality throughout the entire passage.

Large leaps also require more agility. To play a smooth *legato* from a low note to a higher note, or vice versa, consider the *portamento* buzz with precise timing to the second note. Farkas encourages the development of a smooth slur through exercises by minimizing the buzzing time between the notes. If too much time is taken to move from one note to the next, the harmonics between those pitches will tend to sound. If an expressive *portamento* slur (distinguished from a *portamento* buzz in which the buzz/air is continuous, but without sounding the intervening pitches) is desired, more time would be wonderful, but if a beautiful *legato* is desired, less time between the notes is required.

Musical Example 6.6. Mercadante *Concerto*, mm. 10-11

10

"dah - ee"

11

air moving

*p*

Places where agility is necessary for ascending large interval movement in the Mercadante *Concerto* include the pick-up to measure 11 into measure 11 (see musical example 6.6) and the pick-up to measure 15 into measure 15 (see musical example 6.7).

Musical Example 6.7. Mercadante *Concerto*, mm. 14-15

14

"dah - ee"

15

air moving

*p*

Approaching measure 11, play the  $a^1$  pick-up full length, being careful not to rush into the following  $f^2$ . At the very end of the duration of  $a^1$ , ascend to the  $f^2$  with a *portamento* buzz and articulating it as follows: “dahh—eee.” Keep the air moving, then, through the  $f^2$  continuing through the phrase. This should also occur for the descending large intervals in measure 23 and measure 41 (see musical example 6.8).

Musical Example 6.8. Mercadante *Concerto*, mm. 23 and 41

It is considered that with the advent of larger performance venues and the demand to sing while accompanied by larger Wagnerian-style orchestras, singers began to value power of sound over beauty of sound and, consequently, sacrificed agility. Performing with a larger orchestra required singing louder in order to be heard. This often resulted in forcing the voice in order to project. Naturally, this diminished agility and the relaxed approach to singing. The lighter voice mechanism of the *bel canto* singer, however, enabled fast passagework to be sung with ease. With the light mechanism employed, a singer was better able to resist bearing down on the voice and, consequently, could move quickly from note to note.

In the *Allegretto brillante* section of Mercadante's *Concerto for Horn*, the style is light and flowing with a dramatic element resulting from tempo variation. There is a repeated rhythmic figure of an eighth followed by two sixteenths.

Musical Example 6.9. Mercadante *Concerto*, mm.46-48

In every instance that two sixteenths stand alone, they should lead into the following note which has a longer note value. This propels the musical line, maintaining its forward movement, as in musical example 6.9. The sixteenth note figure is prominent from measures 46 to 64 and from measures 108 to 129.

The *Allegretto brillante* begins with four four-measure phrases that are set apart by *fermatas*. Each phrase is unique. Phrase one ends with a slight *ritardando* from measure 49 into 50, but the following phrase ends with only a broadening of the eighths on beat 3 of measure 54, simply “placing” the  $b^1$  on the *fermata* of measure 55.

Musical Example 6.10. Mercadante *Concerto*, mm. 54-55



As demonstrated in musical example 6.10, slight delay of the  $b^1$ , with a lift on the  $f\#^2$ , is the desired effect. Likewise, the following phrase ending in measure 60 is approached by a broadening of the sixteenth notes in measure 59. The phrase from measure 60 through measure 64 is kept in tempo, ending with a full quarter note value that is tapered at the end.

Musical Example 6.11. Mercadante *Concerto*, mm. 62-64

The climax of this phrase is on the first beat of measure 63, with the interval of a sixth from  $c^2$  to  $a^2$ . As shown in musical example 6.11, one should articulate from  $c^2$  to  $a^2$  with “daht-tee,” taking special care to keep the upper note light to prevent over-blowing.

There are two lyrical sections in the *Allegretto brillante*: measures 72 to 85 and measure 136 to 150. From measure 72 through 85 it is important to maintain three four-measure phrases. Each phrase has eighth note pick-ups and leads to the climax at the beginning of the third measure of each phrase, measures 75, 79 and 83 respectively. In the descending figures of measures 74 and 78, one must keep the air moving and maintain solid support (see musical example 6.12). Not only will this lead into the climax tone which follows, but it will help each note speak clearly and facilitate an even tone.

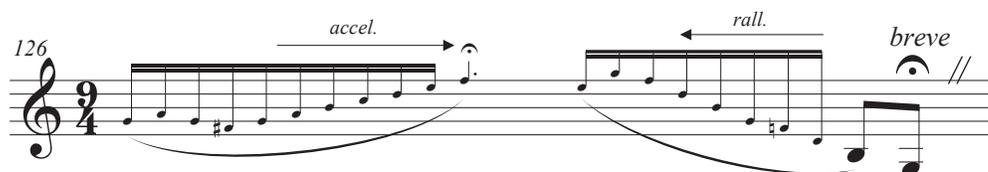
Musical Example 6.12. Mercadante *Concerto*, mm. 72-76

Measures 91-101 should be crisp, yet fluid. Practice of this passage in the rhythmic patterns explained in *Agility*, Chapter IV, will build a foundation of even sound while moving swiftly.

Musical Example 6.13. Mercadante *Concerto*, mm. 95-101

As shown in musical example 6.13, gradually *crescendo* in measure 96, leading to the half note in measure 97 with the final and strongest climax being on the  $g^2$  in measure 98 and  $d^2$  in measure 99.

The section from measure 108 through 129 is similar in style to measures 46-64. There are five four-measure phrases that are set apart with *fermatas*. In addition, there are embellishments in the form of grace notes and short cadenzas. As previously mentioned, always lead the two sixteenths to the note which follows them. In measure 111, hold the first note briefly, then begin the sixteenths slowly, increasing in speed, then slowing down to the second *fermata*. This is a rhythmically free cadenza that should not be hurried. A more expansive cadenza figure is found in measure 126.

Musical Example 6.14. Mercadante *Concerto*, m. 126

In this ascending figure (musical example 6.14), begin slowly and then accelerate to the first  $f^2$  *fermata*. Follow this with a fast descent that slows to the second *fermata*. Do not rush into the last *fermata*, but take time, especially with the two notes preceding it.

The grace notes in measures 114 and 119 also should not be rushed. If taken too quickly, the pitch is lost, tone is poor and they simply sound like errors! Take them slow enough to hear the actual pitches, allowing them to be the melodically expressive ornaments they are meant to be. Regarding tempo at the end of each of these five phrases, the cadenzas define the first and fourth phrase endings, measures 108-111 and 121-125. In the phrases from measures 111-115 and 116-120, the eighths leading into the *fermatas* should slightly broaden. The phrase beginning at the end of measure 125 through measure 129 should be kept in tempo, demonstrating clarity and brilliance of style with a full dotted quarter note value in measure 129.

The lyrical section from measure 136 through 150 is very expressive. It begins with a very fluid *legato* in the first two-measure phrase. One must keep the lips buzzing between the notes, gliding from note to note. Extend the length of the e-flat<sup>2</sup>, reclaiming the lost time by speeding up slightly through the *diminuendo* on the eighth note triplets (see musical example 6.15).

Musical Example 6.15. Mercadante *Concerto*, mm. 136-138

The following phrase is an extended phrase length from the three eighth note pick-ups into measure 139 through the first note in measure 144.

Musical Example 6.16. Mercadante *Concerto*, mm. 139-144

As shown in musical example 6.16, *crescendo* slightly through the first note in measure 140 leading into the phrase climax which extends from measure 141 through the half note in measure 142. Another long phrase of six measures ends this lyrical section from the pick-ups to measure 145 through measure 150. Keep the sound full in the climax of this phrase, measures 147-148.

The final section of Mercadante's *Concerto for Horn* is a clean, fast-moving flourish that must be kept light. Beginning with the first figure in measure 156, shown in musical example 6.17, each of the ascending figures should be long and strong on the lower pitches, rising to a buoyant and light upper note.

Musical Example 6.17. Mercadante *Concerto*, mm. 156-157

The air must keep moving in order to connect and facilitate fluidity of motion, but the tongued notes should be very clean. Practice this entire section in the varied rhythmic patterns, as found in *Agility*, Chapter IV, being sure to maintain the exact articulation indicated on the written score. The final three notes should be long, strong, and dramatic.

Rossini, *Introduction, Andante et Allegro (Fantasy)*

During the early nineteenth-century, considerable instrumental music was based on themes from operas. Many so-called opera paraphrases or fantasies were arranged from the themes of Italian opera, the most popular current music. Rossini's *Introduction, Andante et Allegro (Fantasy)* was dedicated to Jacques-François Gallay, solo horn of the *Théâtre Italien* in Paris. It features a lyrical horn solo from the overture to *Il Turco in Italia* that begins the *cantabile* section of the fantasy. Rossini then continues with a *cavatina* melody from the opera *Otello*, Act III: "Assisa a' pie d'un salice," and concludes with a characteristic Rossini *cabaletta*. This fantasy for horn and piano by Rossini aptly demonstrates the *bel canto* qualities of *legato* and tonal evenness.

The introductory melody of Rossini's *Introduction, Andante et Allegro* begins in measure 11, continuing to measure 21. This melody, taken directly from his opera *Il*

*Turco in Italia* should be played very sustained and *legato*, with each two-measure phrase beautifully shaped. Each of these phrases builds to a climax on the first beat of a measure, gently building to the first beat of measures 13, 15 and 17 respectively. Musical example 6.18 shows the opening phrase shape.

Musical Example 6.18. Rossini, *Introduction, Andante et Allegro*, mm. 11-13

**Andante**

*mf sostenuto*

The opening repeated notes should lead forward with direction, followed by a slight *crescendo* into measure 12. On the long note in measure 12, *diminuendo* slightly in order to be able to build more through the following sixteenth notes which lead into the phrase climax on beat one of measure 13. Each *crescendo* or *diminuendo* must be evenly paced and graceful, without any sudden changes. This will maintain the elegance needed for a *bel canto legato* style. The second phrase is similar in shape, but the phrase beginning with pick-ups to measure 16 continuing to measure 17 includes a thirty-second note flourish. This flourish is played with a free *tempo rubato*, as shown in musical example 6.19.

Musical Example 6.19. Rossini, *Introduction, Andante et Allegro*, mm. 16-17

The note value of the beginning  $f^2$  is extended, and the descent is slow at first, but accelerates to the downbeat of measure 17. The second trill in measure 20 should be louder than the first trill in measure 19.

The following *andante* section is a melody from the “Assisa” aria. This gorgeous melody is sung many times in the aria with increased embellishment and ornamentation with each repetition. A smooth *legato* and elegant phrasing enhances the beauty of this timeless melody; therefore, playing with a very smooth, gliding *legato* is important. The frequent descending figures, especially those with large leaps, need to be played with good breath support to produce an even sound. Musical example 6.20 shows the opening melody with large leaps.

Musical Example 6.20. Rossini, *Introduction, Andante et Allegro*, mm. 29-32

One should *crescendo* into the downbeat of both measure 30 and 32, but maintain solid support to the note on the third eighth of each measure. Maintaining intensity

through each phrase adds elegance because the notes speak evenly and are not glossed over. No pitches, regardless of the value, are short in this section, but each note should simply glide into the next one.

The phrase from measure 37-40 should be well-supported, but not heavy. The ascending *arpeggio* in measure 38 should be kept light, approaching the upper  $g^2$  with fast but narrow air on the three preceding notes. The *bel canto* master teachers recommended that the lower pitches leading up to a climax tone be approached with the lighter high note in mind. I would add that for a horn player, the first note of the figure, in this case the lower  $g^1$ , must have full value and not be rushed. Musical example 6.21 demonstrates the *bel canto* approach.

Musical Example 6.21. Rossini, *Introduction, Andante et Allegro*, mm. 37-40

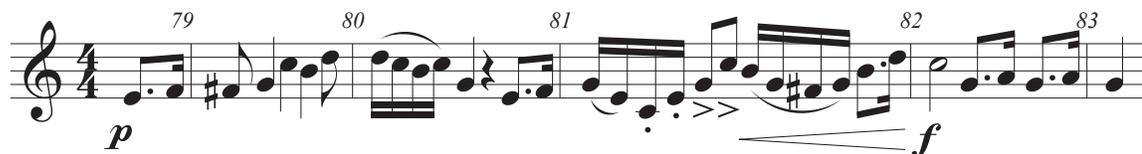
The ornamental figures in general need to move quickly, but not feel rushed. More specifically, in measure 39 the first ornamental figure begins with a slightly extended first note followed by a speedy, but very smooth, flourish into the second eighth note of the measure. The second ornamental figure is similar, but with a significantly longer  $g^1$  followed by very smooth, but fast-moving, turn leading up to the  $e^2$ . Give slight emphasis to the final note in the measure, leading it into the first beat of measure 40 for a satisfying

ending to the phrase. Similar treatment should be given to the turns at the end of measures 47, 49, 55 and 57. That is, the turn begins more slowly and speeds up into the note that follows. An analogy can be made that it is like the centrifugal force that is felt when going around a corner in a vehicle—the end of the curve has more momentum. A lengthier, more ornate ornamental figure similar to the first figure in measure 39 can be found in measure 49 and can be treated similarly.

Musical Example 6.22. Rossini, *Introduction, Andante et Allegro*, mm. 67-70

The musical notation shows a single staff in 4/4 time. Measure 67 starts with a dotted quarter note followed by an eighth note, marked *mf con brio*. Measure 68 continues with a dotted quarter note and an eighth note, also marked *mf con brio*. Measure 69 features a triplet of eighth notes, marked *mf con brio*. Measure 70 ends with a half note, marked *p*. A crescendo line is drawn under measures 67-69.

The final and fast moving *cabaletta* section begins in measure 58 and continues to the end of the piece. The dotted-eighth rhythm should have a lift between the notes, but lead forward dynamically with a *crescendo* to give the musical line direction (see musical example 6.22). Lead the triplet figure in measure 75 with a very subtle *crescendo* to the downbeat of measure 76. Always maintain the integrity of each phrase, considering the climax tone(s) to be the loudest dynamically. They are most often longer in duration and frequently on a strong beat in the measure, as demonstrated in musical example 6.23.

Musical Example 6.23. Rossini, *Introduction, Andante et Allegro*, mm. 79-83

The first two measures of this phrase are light, with separation between the syncopated quarter notes in measure 79 and a gentle emphasis on the downbeat of measure 80. The following measure gains momentum as it builds to the climax tone in measure 82—a half note on the strongest beat of the measure, beat one. Airspeed accelerates through the sixteenth note figures and each one is louder. Continue treating sixteenth note figures similarly throughout this *cabaletta*, leading them to the notes of longer duration which follow.

Musical Example 6.24. Rossini, *Introduction, Andante et Allegro*, mm. 86-89

One can see in musical example 6.24 how each set of sixteenths leads to the eighth notes that follow. The following measures are simply an expansion of this same idea. Lead two sixteenth note groupings to the strong beats of each measure, beats one and three, as seen in musical example 6.25.

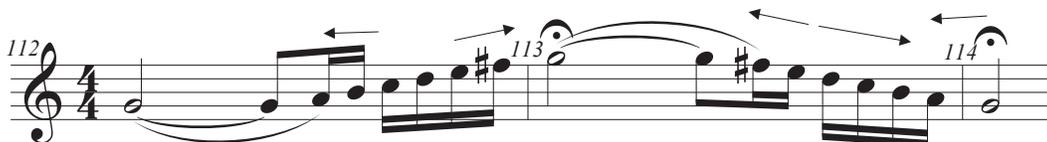
Musical Example 6.25. Rossini, *Introduction, Andante et Allegro*, mm. 90-93

The musical score shows measures 90 through 93. Measure 90 begins with a piano (*p*) dynamic and contains a series of staccato notes. Measure 91 is marked mezzo-piano (*mp*). Measure 92 is marked forte (*f*) and features a crescendo leading to a fortissimo (*ff*) dynamic in measure 93.

Play the staccato notes very short, implementing the tonguing technique in which the end of the staccato note is actually the attack of the following note. Each sixteenth note grouping accelerates a little, ending in an exciting ascent to the climax from the end of measure 92 into measure 93.

Continue in a graceful style from measure 98 through the downbeat of 105, when another *crescendo* builds to *forte* in measure 108. Broaden the second turn in measure 110, slowing to place the downbeat of measure 111. The ascending run in measure 112 should implement a *tempo rubato*, beginning slowly and speeding up to the  $g^2$ . As demonstrated in musical example 6.26, the following descent should be free with a slow beginning, an *accelerando* and a slower dramatic resolution.

Musical Example 6.26. Rossini, *Introduction, Andante et Allegro*, m. 112



After the gradual buildup and *crescendo* from measure 126 to 130, do not slow down. Keep the tempo moving, allowing the accompaniment to be prominent from measure 131-137, then taking the forefront, ending with a light, speedy and exciting flurry of arpeggiations.

Balfe, *Cantata: Sempre pensoso e torbido*

Maria Malibran (1808-1836) probably was the most exciting and celebrated singer of her generation. A consummate actress with a remarkable voice, Rossini described her as “unique.”<sup>219</sup> All of the leading Italian opera composers were impressed by her “musical genius” and audiences clamored to hear her perform. She was fond of the tenor Michael William Balfe (1808-1870) and, together with her impresario, the horn player Giovanni Puzzi, encouraged Balfe to travel to Italy. There she performed with him, notably at La Scala in Rossini’s *Otello* in 1831, and was likely the mezzo-soprano for whom he composed his *Cantata: Sempre pensoso e torbido* in 1836. As the most popular musical art form in the early 19th century, the focus of Italian opera was on the arias, which provided opportunities for great singers to display their expressiveness and

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219. “The most remarkable,” he said, “was Madame Pasta; Madame Colbran was the foremost; but Madame Malibran was unique” quoted in: April Fitzlyon, *Maria Malibran, Diva of the Romantic Age* (London, Souvenir Press, 1978), 71.

virtuosity. The typical aria form was in two parts, comprised of an expressively slow, lyrical *cantabile* followed by a rapid virtuosic *cabaletta*, to which an opening prelude and intervening *tempo di mezzo* may be added. Balfe's *Cantata: Sempre pensoso e torbido* includes all of these sections.

The opening melody of Balfe's cantata begins with a horn solo in measure 3, with the singer entering in measure 14. The horn is an expressive voice, with nuance and *bel canto* ornamentation highlighting the beauty of tone and freedom of expression. The opening two measure phrase is very legato. Air should be steady and the tongue should be unobtrusive while following the air. A well-paced *crescendo* should lead to the downbeat of measure 4 followed by *tempo rubato* and an accelerated descent into beat 4 as seen in musical example 6.27.

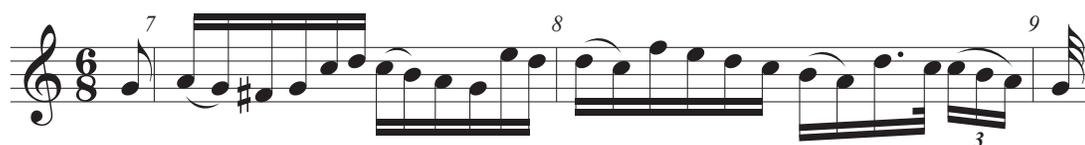
Musical Example 6.27. Balfe, *Cantata: Sempre pensoso e torbido*, mm. 3-4

Musical Example 6.28. Balfe, *Cantata: Sempre pensoso e torbido*, mm. 5-6

Musical example 6.28 shows the free ornamental figures of the thirty-second note triplets at the end of measure 5. The triplets begin slightly slower and accelerate into the downbeat of measure 6 with the following thirty-second notes in measure 6 slowing to the  $d^2$  resolution.

*Tempo rubato* is utilized in the scalar passage in measures 7-12, musical example 6.29. Length is added to the duration of specific pitches to create shape and time is recovered through the acceleration of the pitches that follow.

Musical Example 6.29. Balfe, *Cantata: Sempre pensoso e torbido*, mm. 7-9



The expressive and free ascent in measure 9, musical example 6.30, builds to the  $g^2$  in measure 10.

Musical Example 6.30. Balfe, *Cantata: Sempre pensoso e torbido*, mm. 9-13

Grace notes should flow smoothly into the note that follows and the first and fourth beat in the measure should be emphasized through lengthening. Getting softer immediately after these beats provides the opportunity to build to the next strong beat, keeping the musical line moving forward. Maintain a constant buzz throughout this passage to produce a very fluid *legato* line. The agogic stress given to the  $g^2$  in measure 10 indicates a point of arrival. Although it is an arrival point, it is extended by means of the subsequent sixteenth note passage in measure 11. The sixteenth notes on beats 4, 5 and 6 should have breath accents primarily, with only a very light *legato* tongue. The sixteenths in measure 11, also seen in musical example 6.30, lead to the final note of the phrase that is not only given agogic stress, but an additional trill as well. Delay of the resolution prolongs the climax to create a more satisfying resolution in measure 13. Play the trill with a musically expressive “hairpin” (*crescendo* and *diminuendo*), slowing the trill to the final note of resolution.

The horn and vocal parts interact throughout the remainder of Balfe’s cantata. The *bel canto* style of the voice should also be reflected in the horn part.

Musical Example 6.31. Balfe, *Cantata: Sempre pensoso e torbido*, mm. 17-18

The musical example shows a single staff in 6/8 time. Measure 17 contains a quarter rest followed by a quarter note G4. Measure 18 begins with a half note G4, followed by a sixteenth note A4, a sixteenth note B4, a quarter note C5, a quarter note B4, a quarter note A4, and a quarter note G4. A trill is indicated over the final G4. The dynamic marking *p* is placed below the first note of measure 18.

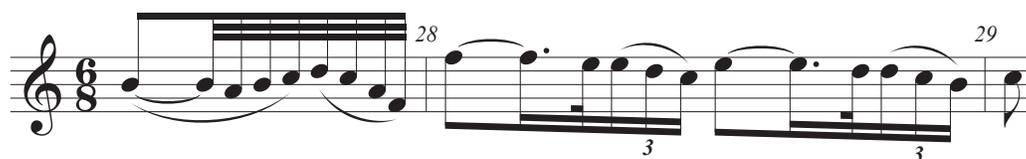
When the horn joins the voice in measure 17, musical example 6.31, it is with very soft and gentle placement of the first two notes and a “daht-tee” articulation. The upper notes should be kept light, with very good breath support being maintained through the descending thirty-second notes leading into the downbeat of measure 18. When there is a line of sixteenth notes beginning with a slur (see musical example 6.32), it is very easy to be too heavy on the first, and often lower, pitches. Keep them light but full, and always flowing forward.

Musical Example 6.32. Balfe, *Cantata: Sempre pensoso e torbido*, mm. 18-19, 21-22



The horn and voice are in rhythmic unison from the second half of measure 27 through the downbeat of measure 29. Listen to the singer carefully in order to stay together and to be supportive of the vocal line. Slur two notes and tongue two in measure 27 (see musical example 6.33), using a precise but light tongue.

Musical Example 6.33. Balfe, *Cantata: Sempre pensoso e torbido*, mm. 27-29



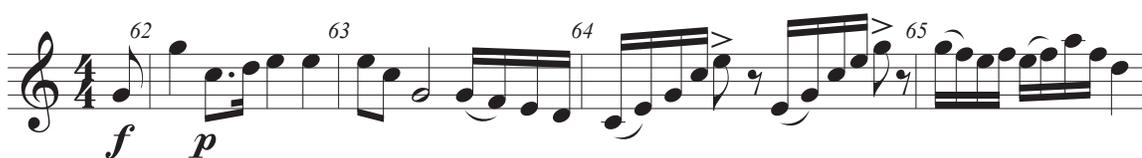
The tongue once again makes a quick octave leap by releasing the lower  $f^1$ , at the same time attacking  $f^2$ . The triplet figure in measure 28 needs to be kept soft and light even while leading to the following eighth notes. Resist the temptation to bear down too much. The triplet figure at the end of measure 29 is with the voice. In measures 34 to 37 there is a cadenza for both the voice and horn together. Look at the singer and follow her. Due to the breath control challenge for the singer, a horn player should allow her to lead. The entire cadenza is in rhythmic unison with the exception of two places. The first place is measure 34 after the *fermata* and resolution. The singer begins the passage alone and the horn joins.

Musical Example 6.34. Balfe, *Cantata: Sempre pensoso e torbido*, mm. 34-37

Listen carefully and attempt to join the voice with inconspicuous articulation as seen in musical example 6.34. The quarter notes accelerate in measure 35, as dictated by the singer. The final *fermata* in measure 37 has a trill in the vocal part—wait and move with the singer into the note of resolution. Treat this cadenza as one would treat any operatic duet aria; the horn is a voice without words. Sing with even tone, musical direction, and fluid, *legato* motion.

The vocal part is prominent from measure 39 through 53, but the horn must enter with a very steady and cleanly articulated run beginning in measure 54. The horn takes the foreground with the pick-up into measure 62 with brilliance and precision.

Musical Example 6.35. Balfe, *Cantata: Sempre pensoso e torbido*, mm. 62-65



Maintain accuracy in this agile passage by using the tongue judiciously, “daht-tee”, and keeping a smooth *legato* through the sixteenth note passages, see musical example 6.35. Play the first note of each sixteenth note grouping full length without rushing off of it. In the arpeggiated ascents in measure 64, begin them stronger and then lighten for the ascent to prevent overblowing of the upper notes which require less air volume to maintain an even tone.

Piano and horn share the sixteenth note run beginning in measure 68. It is important to stay together, but if possible, include an expressive nuance by very slightly lengthening the g<sup>2</sup> at the beginning of measure 69. The natural broadening of measure 71 can be extended by lengthening the eighth note triplet at the end of measure 71 and dramatically extending the length of the first note in measure 72, as shown in musical example 6.36.

Musical Example 6.36. Balfe, *Cantata: Sempre pensoso e torbido*, mm. 34-37

The musical score consists of two staves in 4/4 time. The first staff begins at measure 68 and ends at measure 69. The second staff begins at measure 70 and ends at measure 73. The melody is characterized by a series of eighth and sixteenth notes, often beamed together. Dynamic markings include *f* (forte) at measure 71, *mf* (mezzo-forte) at measure 72, and *ff* (fortissimo) at measure 73. There are also trills and triplets indicated by '3' and arrows.

The principles outlined in this performer’s guide explicate the application of *bel canto*-informed horn technique as applied to *bel canto* horn repertoire, with emphasis on artistic lyrical horn playing. *Bel canto* vocal techniques and technical changes needed for register shifts, dynamic changes, smooth *legato*, etc. have been identified and described in order to achieve the desired *bel canto* qualities on the horn. Phrase structure, indication of phrase “pivot-point(s)” where appropriate, and breathing patterns have also been considered. Horn players can improve their abilities to play artistically in a lyrical *legato* style, with a light mechanism, and employ a beautiful sound throughout the range of the horn through the study of *bel canto* vocal technique.

## APPENDIX A

NATURAL HORN HARMONIC SERIES  
in the key of F concert



## FINGERINGS for TRANSPOSED HARMONIC SERIES

Down by 1/2 steps on the F and B-flat horns:

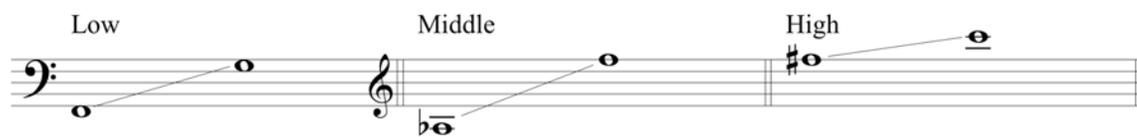
0  
2  
1  
12(3)  
23  
13  
123

Up by 1/2 steps on the B-flat and F horns:

23  
12(3)  
1  
2  
0

## APPENDIX B

## REGISTERS OF THE HORN



## APPENDIX C

## GLOSSARY

Agility. “Marked by ready ability to move with quick, easy grace.” (*Merriam-Webster OnLine*, s.v. “agile,” accessed July 11, 2011, <http://www.merriam-webster.com/dictionary/agile>.) “Facility in singing swift musical passages accurately, smoothly, and evenly.” (Cornelius L. Reid, *A Dictionary of Vocal Terminology: an Analysis*. 1983. Reprint, Huntsville, TX: Recital Publications, 1994, 9.)

*Appoggio* from *appoggiare*, “to lean.” Steady breath support used to maintain air pressure.

Arban, Jean-Baptiste. (1825-1889) Cornet virtuoso and professor at the *Paris Conservatoire*. Known for his *Grande méthode* for cornet which included adaptations of *bel canto* opera melodies.

Balfe, Michael William (1808-1870). *Bel canto* tenor and composer. The “English Rossini.”

Bartoli, Cecilia (b. 1966). Mezzo-soprano. Accomplished contemporary specialist in the *bel canto* repertoire.

*Bel canto*. “Beautiful singing.” Refers to the Italian vocal style of the 18th and early 19th centuries, the qualities of which include perfect legato production throughout the range, the use of a light tone in the higher registers and agile and flexible delivery. More narrowly, it is sometimes applied exclusively to Italian opera of the time of Rossini, Bellini and Donizetti.” Owen Jander and Ellen T. Harris. “*Bel canto*.” *Grove Music Online*. *Oxford Music Online*, accessed April 10, 2009, <http://www.oxfordmusiconline.com/subscriber/article/grove/music/02551>

Breath attack. Beginning the sound without use of the tongue.

*Cabaletta*. The second section of a typical nineteenth-century opera aria, usually in a fast and energetic style.

*Cantabile*. “In a singing style.” Denotes the opening section of a two-part nineteenth-century opera aria.

*Cavatina*. The opening section of an opera aria, in the nineteenth century associated with a virtuosic style. May be used interchangeably with *cantabile* to refer to the lyrical opening section of a typical nineteenth-century opera aria.

Caruso, Enrico (1873-1921). Tenor. A master of the lyrical qualities of *bel canto* operas, he was known for exceptional legato and phrasing. His numerous recordings (now reissued) made him famous.

*Chiaroscuro*. Literally, “bright/dark.” Rich and round tone quality, warm and resonant, but brilliant. The desired sound quality for a well-trained operatic singer.

Clarke, Herbert L. (1867-1945). Cornet soloist and teacher whose method books are still important teaching material today. He was notable for being the cornet soloist in John Philip Sousa’s band.

*Coup de glotte*. Literally “stroke of the glottis.” “Blow of the glottis. In v. prod., a method, thought by many to be harmful, of attacking a note by closing the false vocal cords (2 membranes above the true vocal cords) and quickly opening them to release the tone. If the release is too abrupt, a cough will be the result.” (*The Oxford Dictionary of Music*, 2nd ed. rev.. *Oxford Music Online*, s.v. “coup de glotte,” accessed November 9, 2012, <http://www.oxfordmusiconline.com/subscriber/article/opr/t237/e2505>.)

Dauprat, Louis-François (1781-1868). Horn player, teacher and composer. Author of *Méthode pour cor alto et cor basse* (1824), an important source for information about early nineteenth-century horn playing.

DeRosa, Vincent (b. 1920). Hollywood studio musician known for his long career as a “first-call” horn player in Los Angeles, 1935-2008, and as professor of horn at the University of Southern California, 1974-2005. His warm and beautiful playing set the standard for studio horn playing.

Farkas, Philip (1914-1992). Former principal horn of the Chicago, Cleveland, and Boston Symphony Orchestras and leading twentieth-century horn pedagogue and author.

*Filar il tuono*. “To spin out the tone.”

Fox, Fred (b. 1914). Leading brass pedagogue and horn player. Author of *Essentials of Brass Playing*, one of the most important books for brass players since 1974.

Gallay, Jacques François (1795-1864). Solo horn of the *Théâtre Italien* in Paris. Teacher and composer whose *Méthode* (1843) is an important source for information about *cor solo* playing.

Galli-Curci, Amelita (1882-1963). Soprano. Exceptional early twentieth-century *bel canto* artist whose recordings of the 1920s and early 1930s are important sources for performing practices of the *bel canto*.

García, Manuel del P. V. R. (1775-1832). Tenor, composer and teacher of singing. Father of baritone and pedagogue, Manuel Patricio Rodríguez García, and the mezzo sopranos Pauline Viardot and Maria Malibran.

García, Manuel Patricio Rodríguez (1805-1906). Baritone and leading *bel canto* pedagogue. Son of Manuel del P. V. R. García.

Gordon, Claude (1916-1996). Virtuoso trumpet soloist, band leader, and pedagogue. Herbert L. Clarke's protégé. Gordon's pedagogical materials have had a significant influence on many contemporary trumpet players.

Horne, Marilyn (b. 1929) Mezzo-soprano. A student of Lotte Lehmann and long-time associate of Joan Sutherland with whom she performed and recorded many *bel canto* operas.

Jacobs, Arnold (1915-1998). Long-time principal tuba of the Chicago Symphony Orchestra and one of the most influential tuba and breathing pedagogues of his generation.

Lamperti, Francesco (1813-1892). Master *bel canto* singer and pedagogue. Father of G.B. Lamperti.

Lamperti, Giovanni Battista (1839-1910). Teacher of singing. Son of Francesco Lamperti.

*Legato*. "Pearls on a string." The ability to sing or play smoothly from note to note, without scooping or inadvertently emphasizing certain pitches.

Malibran, Maria (1808-1836). Mezzo-soprano and daughter of Manuel del P. V. R. García. Considered the most famous early nineteenth-century operatic star.

Marchesi, Mathilde (1821-1913). Influential voice teacher and student of Manuel P.R. García. Her published vocal exercises are important sources for information about *bel canto* pedagogy.

Melba, Nellie (1861-1931). Soprano. Student of Mathilde Marchesi. Her recordings made between 1904 and 1926 are significant sources for understanding of *bel canto* performing practices. Born Helen Porter Mitchell, she was the originator of “Melba toast.”

Mercadante, Saverio (1795-1870). Composer, conductor and teacher. One of the most popular Italian opera composers of his generation. His music is exemplary of the *bel canto* style.

*Messa di voce*. Swell of dynamics on a single note, as an ornament of expression used by both singers and instrumentalists. The swell was used on long note exercises with the purpose of gaining the control necessary to perform with an appropriate degree of musical nuance and expression.

Pavarotti, Luciano (1935-2007). Tenor. With a lyrical singing voice well-suited to the music of Donzetti, he was truly a *bel canto* artist. Most famous opera singer of his time, beginning with his debut in 1961 and concluding with a farewell tour in 2005.

*Portamento*. Slur with additional notes sounding in between the notated pitches. Considered an ornament and commonly heard in early twentieth-century recordings of *bel canto* singing. Despite the later twentieth-century interest in historical performance practices, singers have generally ignored the use of *portamento* today.

Registration. In vocal pedagogy, tonal evenness achieved by blending registers.

Reid, Cornelius (1911-2008). Well-known New York City *bel canto* pedagogue, scholar, and author. His books may be the most important sources for detailed information about *bel canto* pedagogy and style today.

Rossini, Gioachino (1792-1868). Most famous of the early nineteenth-century *bel canto* opera composers.

Shakespeare, William (1849-1931). Tenor, author and student of the famous *bel canto* teacher Francesco Lamperti.

Stark, James (b. 1938). Voice professor and author of *Bel Canto: A History of Vocal Pedagogy*, the leading history and analysis of *bel canto* technique and pedagogy.

Sutherland, Joan (1926-2010). Soprano. Highly-regarded twentieth-century *bel canto* soprano with impeccable legato technique.

*Tempo rubato*. Literally, “robbed time.” Varying time within a phrase. “The soloist steals or borrows time, only to return it later in the measure or phrase.” (Martha Elliott, *Singing in Style: A Guide to Vocal Performance Practices*. (Yale University Press, 2007), 134.)

Tonal Evenness. Maintaining a beautiful sound (see *chiaroscuro*) throughout the range of the voice or instrument. Requires blending of registers to maintain consistent tone quality.

Tosi, Pier Francesco (1654-1732). Eighteenth-century singer and author of an influential vocal tutor: *Observations on the Florid Song*.

Viardot, Pauline (1821-1910). Mezzo-soprano, composer, and daughter of Manuel del P. V. R. García. She was an influential nineteenth-century voice teacher.

Vocalise. Vocal music without words.

## APPENDIX D

## PITCH AND OCTAVE DESIGNATIONS

For pitches identified in this document, the following octave designations are used:

A musical staff with a bass clef on the left and a treble clef on the right. The staff contains seven notes, each with an octave designation above it. The notes are: C1 (bass clef, 8<sup>va</sup>), C (bass clef, C), c (bass clef, c), c<sup>1</sup> (treble clef, c<sup>1</sup>), c<sup>2</sup> (treble clef, c<sup>2</sup>), c<sup>3</sup> (treble clef, c<sup>3</sup>), and c<sup>4</sup> (treble clef, c<sup>4</sup>, 8<sup>va</sup>).

Octave Designation	Pitch
8 <sup>va</sup>	C1
	C
	c
	c <sup>1</sup>
	c <sup>2</sup>
	c <sup>3</sup>
8 <sup>va</sup>	c <sup>4</sup>

## APPENDIX E

## PERMISSIONS

RE: Mercadante, *Concerto* (Kendor)

From: "Mendy Varga" <[mvarga@nycap.rr.com](mailto:mvarga@nycap.rr.com)>

Subject: RE: Permission to include excerpts in doctoral dissertation

Date: December 17, 2012 10:17:03 AM EST

Thank you for your email. We do not control the rights on this piece, therefore please contact Mr. Kuyper directly.

Best regards,

Mendy Varga  
Copyright Administrator  
Kendor Music, Inc.  
518.280.1000

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Dear Ms. Pierce,

Assuming this also agreeable with Kendor music, I am most happy to have you use excerpts from the Mercadante Concerto I edited in your dissertation.

Best holiday wishes,

Bill

L. William Kuyper  
New York Philharmonic (ret.)  
Las Cruces, NM 88007

RE: Farkas, *Art of Horn Playing* (Summy-Birchard/Alfred)

Thank you for your request.

I am happy to inform you that there is no need to obtain permission for this usage. Since your dissertation is an educational presentation then there is no need for a license and you are clear to proceed.

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## REFERENCES

- Barra, Donald. *The Dynamic Performance : A Performer's Guide to Musical Expression and Interpretation*. Foreword by Yehudi Menuhin. Englewood Cliffs, N.J. : Prentice-Hall, 1983.
- Bailey, Wayne; William Stanley, Thomas Stein, Alan Siebert, Patrick Miles. *Teaching Brass: A Resource Manual*. Columbus, OH: McGraw-Hill, 1992.
- Balfe, M. W. *Cantata: Sempre pensoso e torbido* (for voice, horn and piano). Edited by F. J. Hall. Boca Raton, Fla: Masters Music Publications, 2007.
- Beauchamp, Malcolm Eugene. "The Application of *Bel Canto* Concepts and Principles to Trumpet Pedagogy and Performance." PhD diss., Louisiana State University, 1980.
- Betts, James Edmond. "A Comprehensive Performance Project in Horn Literature with an Essay Consisting of a Comparison of Concepts of Horn Technique as Expressed in Selected Instructional Materials for Horn Dating from 1798 to 1960." DMA thesis, The University of Iowa, 1984.
- Bhatara, Anjali, Anna K. Tirovolas, Lilu Marie Dunn, Bianca Levy, and Daniel J. Levitin. "Perception of Emotional Expression in Musical Performance." *Journal of Experimental Psychology: Human Perception and Performance* 37, no. 3 (2011): 921-934.
- Brophy, William R. *Technical Studies for Solving Special Problems on the Horn*. New York: Carl Fischer, 1977.
- Brown, William Earl. *Vocal Wisdom: Maxims of Giovanni Battista Lamperti*. 1931. Reprint, Whitefish, MT: Kessinger Publishing, 2007.
- Burden, John. *Horn Playing: A New Approach*. London: Paterson's Publications, LTD., n.d.
- Burton, Gregory J. "Teaching Beginning Brass Players: A Singing Approach." [article online] Accessed 30 October 2004. Available from: <http://hrsbstaff.ednet.ns.ca/fergusm6/tips/conductors/teaching%20beg%20brass.htm>

- Ceccarossi, Domenico. "Phrasing." *The Horn Call* 1 (Nov. 1976): 53.
- Chambers, J. "Horn Tone and Technique." *Woodwind World* 4, no. 6 (1962): 11-12.
- Chiti, Patricia Adkins, ed. *Songs and Duets of García, Malibran and Viardot*. N.p.: Alfred Publishing, 1997.
- Clarke, Herbert L. *Technical Studies for the Cornet*. New York: Carl Fischer, 1934.
- Clippinger, D. A. *The Clippinger Class-Method of Voice Culture*. Bryn Mawr, PA: Oliver Ditson Company (Theodore Presser), 1932.
- Coar, Birchard. *A Critical Study of the Nineteenth Century Horn Virtuosi in France*. De Kalb, IL: B. Coar, 1952.
- Coar, Birchard. *The French Horn*. Ann Arbor, MI: Edwards Brothers, 1947.
- Coffin, Berton. *Coffin's Overtones of Bel Canto*. Metuchen, NJ: Scarecrow Press, 1980.
- Colin, Charles. *Advanced Lip Flexibilities—Complete (Trumpet)*. New York: Charles Colin Music, 1980.
- Collins, John C. "Singing: A Comparative Analysis." *NATS [National Association of Teachers of Singing] Bulletin, USA* 25, no.3, 4 (February, May 1969): 32-37; 12-19.
- Comelek, Barbara Kay Zumwalt. "Allusions to the Vocal Art in Selected Wind Instrument Pedagogical Sources." Doctor of Arts diss., Ball State University, 1985.
- Damoreau, Laure-Cinthie. *Classic Bel Canto Technique*. New English Translation and Introduction by Victor Rangel-Ribeiro. Milano: G. Ricordi & Co., 1849. Reprint, Mineola NY: Dover Publications, Inc., 1997.
- Dauprat, Louis-Francois. *Méthode de Cor Alto et Cor Basse. (Complete English translation of the first edition published by Zetter, Paris, ca. 1824)*. Edited by Viola Roth. Bloomington, IN: Birdalone Music, 1994.

- Davis, Charles. "Bel Canto and Brass Playing." [article online] From *The Brass Player* (Summer 1994). Accessed 30 October 2004. Available from: <http://www.charlescolin.com/nybc/belcanto.htm>
- Decker, James. *The Master Series for Horn*. Long Beach, CA : Interactive Video Audition System International, 2008.
- Dogantan, Mine. "Mathis Lussy's Theory of Rhythm as a Basis for a Theory of Expressive Performance (Switzerland)." Ph.D. diss., Columbia University, 1997.
- Duey, Philip A. *Bel Canto in Its Golden Age: A Study of Its Teaching Concepts*. New York: King's Crown Press, 1951
- Dyo, Vladimir. "The Application Of *Bel Canto* Principles To Violin Performance." DMA document, Temple University, 2012.
- Elliott, Martha. *Singing in Style: A Guide to Vocal Performance Practices*. (New Haven, CT: Yale University Press, 2007.
- Ericson, John. *Playing High Horn*. Tempe, AZ: Horn Notes Edition, 2007.
- Farkas, Philip. *The Art of Brass Playing: A Treatise on the Formation and Use of the Brass Player's Embouchure*. Rochester, NY: Wind Music, Inc., 1989.
- Farkas, Philip. *The Art of French Horn Playing: A Treatise on the Problems and Techniques of French Horn Playing*. Evanston, Il. : Summy-Birchard, 1956.
- Farkas, Philip. *The Art of Musicianship*. Rochester, NY: Wind Music, Inc., 1976.
- Faulkner, Maurice. "Horn Artistry and Vibrato." *The Instrumentalist* 36 (Mar. 1982): 74.
- Fitzlyon, April. *Maria Malibran: Diva of the Romantic Age*. London: Souvenir Press, 1987.
- Fitzpatrick, Horace. *The Horn and Horn-playing, and the Austro-Bohemian Tradition from 1680-1830*. London: Oxford University Press, 1970.

- Fowler, Alandra Dean. "Estelle Liebling: An Exploration of her Pedagogical Principles as an Extension and Elaboration of the Marchesi Method, Including a Survey of her Music and Editing for Coloratura Soprano and other Voices." DMA document, The University of Arizona, 1994.
- Fox, Fred. *Essentials of Brass Playing: An Explicit, Logical Approach to Important Basic Factors that Contribute to Superior Brass Instrument Performance*. Los Angeles: Fox, 1974.
- Franz, Oscar. *Complete Method for the French Horn*. English text by Gustav Saenger. New York: Carl Fischer, n.d.
- Frederiksen, Brian. *Arnold Jacobs: Song and Wind*. Edited by John Taylor. Gurnee IL: WindSong Press Limited, 1996.
- García, Manuel del P.V.R. *Hints on Singing*. New & Revised Edition. Translated by Beata García. London: E. Ascherberg & Co., 1894.
- García, Manuel. *Treatise on the Art of Singing*. Edited by Albert García. London: Leonard & Co., 1924.
- Gehner, Robert. "Acquiring Air Stream Control in French Horn Performance." *NACWPI Journal* 29, no. 3 (May 1981): 14-21.
- Gerstein, Christine W. "Early musical Training in *Bel Canto* Vocal Technique: A Brief History and Philosophy." Paper prepared for the Hofstra University library, 1994, ERIC doc. ED 393758.
- Glover, Betty, Vincent Cichowicz, Philip Farkas, Abe Torchinsky, Michael Hatfield, Tom Ervin, and John Marcellus. "Getting Down to Brass Facts: A Roundtable." *Music Educators Journal* 66, no. 1 (Sept. 1979): 40-49; 76-77.
- Glover, Sandra Lee. "Cornelius L. Reid: Interpreting the Vocal Registration Tradition of *Bel Canto*." DMA diss., University of Washington, 2002.
- Gossett, Philip. *Divas and Scholars: Performing Italian Opera*. Chicago: University of Chicago Press, 2006.
- Gregory, Robin. *The Horn; a Comprehensive Guide to the Modern Instrument and its Music*. Revised and Enlarged Edition. New York, F. A. Praeger, 1969.

- Haddad, D. "To Sound Like a Horn Player." *The Instrumentalist*. 22 (Feb. 1968): 57.
- Hays, David. "The *Messa Di Voce* as an Ornament in the String Playing of the Seventeenth, Eighteenth and Nineteenth Centuries." D.M. diss., Northwestern University, 2000.
- Helding, Lynn. "Voice Science and Vocal Art, Part One: In Search of Common Ground." *Journal of Singing* 64, no. 2 (November/December 2007): 141-150.
- Hill, Douglas. *Collected Thoughts on Teaching and Learning, Creativity and Horn Performance*. Miami, FL: Warner Brothers Publications, 2001.
- Hill, Douglas. *Extended Techniques for the Horn, A Practical Handbook for Students, Performers and Composer*. Miami, FL: Warner Brothers Publications, 1983.
- Hoss, Wendell. "Musical Building Blocks [in excerpts for the horn]." *The Horn Call* 3, no. 2 (May 1973): 26-27.
- Howe, Marvin C. *Method for the French horn*. New York, Remick Music Corp., 1950.
- Howe, Marvin C. "A Critical Survey of Literature, Materials, Opinions, and Practices Related to Teaching the French Horn." Ph.D. diss., University of Iowa, 1966.
- Howe, Marvin C. *Studies for the Advancing Hornist, Vol. 1: The Singing Hornist*. Traverse City, MI: Arline Howe, 2001.
- Hsu, Yun-Pai. "Going Through a 'Phrase': Developing Musicality in Young Piano Students by Singing." *The American Music Teacher* 49, no. 5 (April/May 2000): 30-32.
- James, Ifor. *Warming Up*. Crans-Montana, Switzerland: Editions Marc Reift, 1999.
- Janetzky, Kurt and Bernhard Bröchle. *The Horn*. Translated by James Chater. Portland, OR: Amadeus Press, 1988.
- Johnson, Christopher. "Musicians' and Nonmusicians' Assessment of Perceived *Rubato* in Musical Performance." *Journal of Research in Music Education* 44 (Spring 1996): 84-96.

- Johnson, Christopher. "Musicians' and Nonmusicians' Assessment of Perceived *Rubato* in Musical Performance." Ph.D. diss., Florida State University, 1992.
- Johnson, Keith. *Brass Performance and Pedagogy*. Upper Saddle River, NJ: Prentice Hall, 2002.
- Juslin, Patrik N. "The Five Facets of Musical Expression: A Psychologist's Perspective on Music Performance." *Psychology of Music* 31, no.3 (July 2003): 273-302.
- Kaplan, Burton. "Musical Expression Motivates: Integrating Technique and Musical Expression from the Start." *The American Music Teacher* 53, no. 2 (Oct./Nov. 2003): 31-32.
- Kenney, Charles Lamb. *A Memoir of Michael William Balfe*. New York: Da Capo Press, 1978.
- Kirkham, Airlie Jane. "An Aural Analysis of *Bel Canto*: Traditions and Interpretations as Preserved Through Selected Sound Recordings." Master's thesis, University of Adelaide, 2010.
- Klein, Herman. "The *Bel Canto*." *The Musical Times* 65, no. 974 (April 1, 1924): 308-311.
- Lamperti, Francesco. *The Art of Singing (Guida Teorico-Pratica-Elementare per lo Studio del Canto)*. 1864. Translated by J.C. Griffith. New York: G. Schirmer, 1890.
- Lamperti, G. B. *The Technic of Bel Canto*. Translated by Theodore Baker. New York: G. Schirmer, 1905.
- Lanzky-Otto, Ib. "Is a Beautiful Horn Sound Really of Any Importance?" *The Horn Call* 10, no. 2 (April 1980): 35-37.
- Lehmann, Lilli. *How to Sing*. Third Revised Edition. Translated from the German by Richard Aldrich. New Revised and Supplemented Edition translated by Clara Willenbücher. 1924. Reprint, New York: Dover Publications Inc., 1993.
- Leuba, Christopher. "A Centered Tone." *The Instrumentalist* 36 (July 1982): 68-69.

- Leuba, Christopher. "Horn Vibrato Response." *Woodwind World-Brass & Percussion* 19, no. 5 (1980): 12-14.
- Liebling, Estelle. *The Estelle Liebling Vocal Course for Coloratura Soprano, Lyric Soprano and Dramatic Soprano*. Edited by Bernard Whitefield. Toronto: Chappell & Co., 1956.
- Liebling, Estelle. *The Estelle Liebling Vocal Course for Mezzo-Soprano and Contralto*. Edited by Bernard Whitefield. Toronto: Chappell & Co., 1956.
- Manén, Lucie. *Bel Canto: The Teaching of the Classical Italian Song-Schools, Its Decline and Restoration*. N.d. Reprint, New York: Oxford University Press, 2004.
- Marchesi, Blanche. *The Singer's Catechism & Creed*. London: J.M. Dent & Sons Ltd., 1932.
- Marchesi, Mathilde. *Bel Canto: A Theoretical and Practical Vocal Method*. N.d. Reprint, New York: Dover Publications Inc., 1970.
- McGill, David. *Sound in Motion: A Performer's Guide to Greater Musical Expression*. Bloomington: Indiana University Press, 2007.
- Mercadante, Saverio. *Concerto for horn*. Edited by L. William Kuyper. Delevan, N.Y.: Kendor Music, 2005.
- Mercadante, Saverio. *Concerto, per corno e orchestra da camera*. Milano: Edizioni Curci, 1972.
- Michotte, Edmond. *An Evening at Rossini's in Beau-Sejour (Passy) 1858*. Translated by Herbert Weinstock. Chicago: The University of Chicago Press, 1968.
- Miller, Todd. *Carved in Stone: The Life and Musical Legacy of Vincent DeRosa*. Fullerton CA: printed by author, 2009.
- Monahan, Brent Jeffrey. *The Art of Singing: A Compendium of Thoughts on Singing Published Between 1777 and 1927*. Metuchen, NJ: Scarecrow Press, 1978.
- Morley-Pegge, Reginald. *The French Horn: Some Notes on the Evolution of the Instrument and of its Technique*. Second edition. London: E. Benn; New York: W. W. Norton, 1973.

- Murray, T.W. "Pursuing the Ideal Horn Tone." *The Instrumentalist* 31 (October 1976): 58-59.
- Nadaf, G. "Making Music with the Horn." *The School Musician* 43 (August/September 1971): 30.
- Nelson, Bruce, compiler. *Also Sprach Arnold Jacobs: A Developmental Guide for Brass Wind Musicians*. Mindelheim (Germany): Polyhymnia Press, 2006.
- Palmer, Caroline. "Anatomy of a Performance: Sources of Musical Expression." *Music Perception* 13, no. 3 (Spring 1996): 433-453.
- Pherigo, Johnny Lee. "A Critical Survey of Materials and Practices Related to Teaching the Horn, 1965-1985." DMA diss., University of Illinois, 1986.
- Pruzin, R.S. "Legato Style for the French Horn." *Brass and Percussion* 2, no. 5 (1974): 10-11.
- Pulte, Diane M. "The *Messa di Voce* and its Effectiveness as a Training Exercise for the Young Singer." DMA document, The Ohio State University, 2005.
- Reid, Cornelius L. *Bel Canto Principles and Practices*. 1950. Reprint, New York: Joseph Patelson Music House, 1990.
- Reid, Cornelius L. *A Dictionary of Vocal Terminology: an Analysis*. 1983. Reprint, Huntsville, TX: Recital Publications, 1994.
- Reid, Cornelius L. *Essays on the Nature of Singing*. Huntsville, TX: Recital Publications, 1992.
- Reid, Cornelius L. *The Free Voice: a Guide to Natural Singing*. 1965. Reprint, New York: Joseph Patelson Music House, 1972.
- Reid, Cornelius L. *Voice: Psyche and Soma*. 1975. Reprint, New York: Joseph Patelson Music House, 1999.
- Reynolds, Verne. *The Horn Handbook*. Portland, Or.: Amadeus Press, 1997.
- Ricci, Luigi. *Variations, Cadenzas and Traditions for Voice*. Milano: Ricordi, 1937.

- Ridgeon, John. *The Physiology of Brass Playing*. Manton (England): Brass Wind Educational Supplies Co., 1986.
- Rossini, Gioachino. *Introduction, andante, allegro: fantasia pour cor et piano*. Edited by Edmond Leloir. Paris: Editions Choudens, 1970.
- Saxton, S. Earl. "Singing on the Horn." *Horn Call* 30, no. 4 (August, 2000): 59-63.
- Schuller, Gunther. *Horn Technique*. 2nd ed. Oxford; New York: Oxford University Press, 1992.
- Shakespeare, William. *The Art of Singing*. Bryn Mawr, PA: Oliver Ditson Co., 1898.
- Shelton, Laurie S. "Singing on the Horn: A Selective Survey of Chamber Music for Voice, Horn, and Keyboard." *Journal of Singing* 54, no.3 (January/February 1998): 25-39.
- Simpson, Peter. "Teaching Musical Expression." *NACWPI Journal* 48, no.4 (Summer 2000): 4-6.
- Stark, James. *Bel Canto: A History of Vocal Pedagogy*. Toronto: University of Toronto Press, 1999. Paperback reprint, 2003.
- Steenstrup, Kristian. *Teaching Brass*. Second revised edition. Aarhus (Denmark): Royal Academy of Music, 2007.
- Stevens, Paul William. "Bowings for Brass: A Visualization Tool for Horn Players." D.M.A. diss., University of California, Los Angeles, 2000.
- Strauchen-Scherer, Elizabeth Bradley. "Lost Luggage: Giovanni Puzzi and the Management of Giovanni Rubini's Farewell Tour in 1842," in *Music in the British Provinces, 1690-1914*, edited by Rachel Cowgill and Peter Holman, 237-253. Aldershot, Hampshire, England ; Burlington, VT: Ashgate Pub., 2007.
- Strauchen-Scherer, Elizabeth Bradley. "Giovanni Puzzi: His Life and Work : a View of Horn Playing and Musical Life in England from 1817 Into the Victorian Era (c. 1855)." PhD diss., University of Oxford, 2000.
- Swanwick, Keith. *Teaching Music Musically*. New York: Routledge, 1999.

- Tabuteau, Marcel. *Lessons: His Own Explanations and Demonstrations of his Phrasing System*. Boston Records BR1017CD.
- Thompson, Virginia M. Weichman. "A Comprehensive Performance Project in Horn Literature with an Essay Consisting of a Comparison of Selected Writings on Melodic Interpretation." D.M. diss., University of Iowa, 1987.
- Thurmond, James Morgan. *Note Grouping : A Method for Achieving Expression and Style in Musical Performance*. Foreword by Weston H. Noble. Camp Hill, PA: JMT Publications, 1982.
- Trongone, Joseph A. "Breath Control for Horn Players." *Music Educators Journal* 34 (February 1948): 40.
- Tuckwell, Barry. *Horn*. New York: Schirmer Books, 1983.
- Tyldesley, William. *Michael William Balfe: His Life and His English Operas*. Aldershot, Hants, England: Ashgate, 2003.
- Vaccari, N. *Practical Method of Italian Singing*. Revised by Vincenzo Vannini. Translated by Henry Badger. Boston: Geo. D. Russell, 1878.
- Vennard, William. *Developing Voices*. New York: Carl Fischer, Inc., 1973.
- Vennard, Williams. *Singing: the Mechanism and the Technic*. Revised Edition. New York: Carl Fischer, Inc., 1967.
- Vernon, Charles. *The Singing Trombone*. Atlanta, GA: Atlanta Brass Society Press, 1983, 1986, 1995, 2009.
- Viardot, Pauline. *An Hour of Study*. New York: G. Schirmer, n.d.
- Wekre, Frøydis Ree. *Thoughts on Playing the Horn Well*. Oslo, Norway: Frøydis Ree Wekre, 1994.
- Whitlock, Weldon. *Bel Canto for the Twentieth Century*. Champaign, IL: Pro Musica Press, 1968.
- Winter, James. H. "Concerning the 'Ring' in Horn Tone." *Woodwind World* 5, no. 5 (1964): 5.

Winter, James. H. "The Tone of the Horn." *Woodwind World* 2 (October 1958): 14-15.

Yancich, Milan. *A Practical Guide to French Horn Playing*. Bloomington, IN: Wind Music, 1971.