

**A HANDBOOK OF VOCAL PEDAGOGY FOR THE
THREE BASIC DIDACTICS OF BREATH CONTROL,
VOWEL PRODUCTION, AND DICTION OF THE
ENGLISH LANGUAGE**

BY

LAURA SWIFT TAYLOR

A Handbook of Vocal Pedagogy for the Three Basic

Didactics of Breath Control, Vowel

Production, and Diction of

the English Language

NOTICE: THIS MATERIAL MAY
BE PROTECTED BY COPYRIGHT
LAW. (TITLE 17, U.S. CODE)

A Research Paper

Presented to

the Graduate Council of

Austin Peay State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Music Education

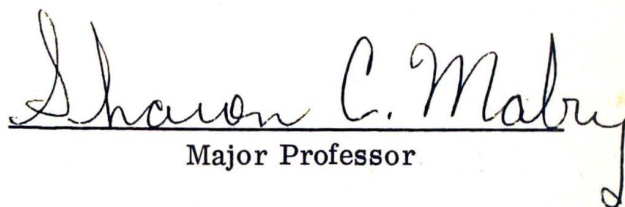
by

Laura Swift Taylor

July, 1976

To the Graduate Council:

I am submitting herewith a Research Paper written by Laura Swift Taylor entitled "A Handbook of Vocal Pedagogy for the Three Basic Didactics of Breath Control, Vowel Production, and Diction of the English Language." I recommend that it be accepted in partial fulfillment of the requirement for the degree of Master of Music Education.


Major Professor

Accepted for the Graduate Council:

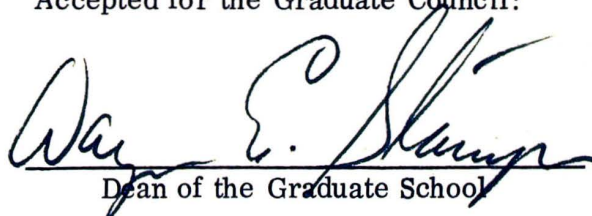

Dean of the Graduate School

Table of Contents

	Page
Introduction	1
Chapter	
I. Breath Control	5
Principles of Breath Control	5
Effects of Breath Control	6
Comparison	7
Summary	9
II. Vowels	11
Objectives	11
Basic Vowels, Diphthongs and Triphthongs	11
Natural Vowel Resonance	12
Vocabulary	14
Concepts of Vowel Production	15
Conclusions	16
III. Singing Diction	18
Objectives	18
The Importance of Diction	18
The Significance of Consonants	19
Areas Affecting Diction	19
Summary	20

Footnotes 22

Annotated Bibliography 23

Introduction

The product of this research is designed as a reference for teaching the three basic disciplines of breath control, vowel information, and English language diction for singers. These disciplines form the basis for artistic tone production, with breath support supplying the power, vowel formation affecting the resonance and tone color, and diction communicating the meaning.

Each chapter contains an analysis of one of these three areas as described in Foundations of Singing by Van Christy. Outlining Christy's basic definition of breathing, vowels and diction provide a reference framework for further investigation.

The books used in this survey can be classified in two basic categories: technical and nontechnical material. The nontechnical material is voluminous and has been used for background reading. The most technical versions include Appelman's The Science of Vocal Pedagogy and Vennard's Singing: The Mechanism and The Technic. In both of these volumes, the anatomy of the singing mechanism is scientifically explained.

In The Science of Vocal Pedagogy Appelman describes the physical positions of the vocal mechanism in a kinesological analysis of speech sounds. The pictures, graphs, and X-ray views of the mouth represent minute changes of the internal and external movements when specific sounds are produced. This book and the recording that is coordinated with it are

designed for students of vocal pedagogy. The record can also be used as an ear training device to help singers understand and imitate certain isolated sounds.

Appelman states that the psychological method may be sufficient for performance, but he considers them inadequate for teaching purposes. To correct this deficiency, he has designed materials containing more scientific information.

Christy's Foundations of Singing is outstanding as a reference book for singers and class voice students because of the well balanced presentation of technical and nontechnical information. It also includes repertoire for study and vocalises for areas of concentration. The explanations are simple and easy to understand. Christy's rules for the different aspects of singing and his "how to" approach makes the manual very helpful.

A useful book for this survey is Burgin's Teaching Singing which includes a compilation of the philosophies, theories, statements, and methods now in print. The chapter on breathing provides information about the different approaches and areas of emphasis of leading authorities. He gives basic descriptions and/or direct quotes from writers concerning their philosophies.

Burgin includes the data concerning the vowel in his chapter entitled "Diction." The reason for this is inherent in the three distinct phases of diction, which are enunciation, pronunciation, and articulation.

In describing resonance, Burgin says: "The teacher of singing must thoroughly understand the principles and effects of vowel resonance to

achieve the best results in singing. Vowels resonate and because of their individual resonance characteristics they are produced easier at certain pitches than at others. This factor of vowel resonance makes certain songs more effective in certain voices than in others. "1

According to Vennard in Singing: The Mechanism and Technique, ". . . the consideration of vowels is largely a continuation of our discussion of resonance and concerns the vibrator only to the extent that the two are coordinated. "2 He continues his discussion thinking of vowels as resonance phenomenon and describing the effect of the resonators on vowel quality.

Madaleine Marshall's book, The Singers Manual of English Diction, is an in-depth review of isolated sounds and words. She gives the preferred pronunciation and delineates problem areas. This book is very helpful because it is through the integration of sounds that words become intelligible.

In Secrets of Singing Ross specifies four approaches to the study of singing diction. "Although the development of a singing diction must obviously be based on sound, it is helpful to analyze the process by using four more specific approaches: The acoustical, the position, the tactile, and the kinesthetic. "3 These four approaches are representative of authorities in the field of vocal pedagogy. Vennard uses the acoustical approach. Adler's phonetics represent the position approach. The tactile or placement approach is based on the sensations of feeling and are exemplified in Christy. Appelman's kinesthetic approach is based on the muscular sense.

The proper physical formation of vowel sounds can serve as a catalyst effecting natural resonance, tonal placement and mood interpretation

through vowel color. Adequate breath control affects the tone quality and interpretive expression of phrasing and dynamics. Precise diction aids the singer's rhythmic accuracy and dramatic interpretation of a song.

Ross, in Secrets of Singing, says, "Singing is a psycho-physiological-acoustical phenomenon, a result of the motor co-ordination of the dynamic processes of respiration, phonation, articulation, and resonance."⁴

Breathing, vowels, and diction comprise the singing act, and the purpose of this paper is to investigate the resources of mind, muscles, and acoustics available to the singer.

Chapter One

Breath Control

Since breath energy is the power source of all singing, this research is to investigate the physical aspects of breathing as it relates to singing, and to discover practical ways to help students effectively utilize the power of this natural resource.

The objectives of this chapter are:

1. To define the principles of diaphragmatic, costal, and clavicular breath control.
2. To relate the importance of breath control to vocal technique and to identify the major areas which breath control effects.
3. To compare the different versions and interpretations of breath control.
4. To report the conclusions for practical application as related to singing.

Principles of Breath Control

Breath control is defined in Christy's Foundation in Singing as "The management of breath in singing characterized by a holding back or 'resisting' process of muscles involved to 'meter' breath for demands of the phrase."⁵

Three types of breathing and their characteristics are:

1. Chest or Clavicular--This is the heaving chest and should not be employed by singers.

2. Rib or Costal--The lifting and widening of lower ribs and back, and the expansion of the waistline muscle during inhalation are characteristic of useful costal breathing.
3. Diaphragmatic Breathing--This type is characterized by the outward and downward expansion of the diaphragm muscle which lies laterally, separating the chest and stomach walls.

Erect posture is vital. The spine should be stretched and flexible.

Before inhalation occurs the upper chest should be lifted, and it should remain high and quiet during singing. At the waistline, the singer should feel an outward expansive lift and the diaphragm should maintain a firm sensation of holding back.

The singer experiences four phases of breath control. They are inhalation, the taking in of air; suspension, the moment when the air is stopped in balance; exhalation, when phonation begins with the tonal attack; and recovery, the relaxation of muscles.

Effects of Breath Control

Christy devotes three chapters of his textbook, Foundations of Singing, to various aspects of breath control. The chapter, "Breath Control: Diaphragmatic--Costal Breathing," contains a descriptive analysis of the physical aspects of muscular action. Another chapter discusses the "Catch-Breath" and its usage. A third chapter describes application of breath during tonal attacks and releases.

The energy of the breath effects the dynamic level of the tone. Less energy is required for pianissimo than fortissimo. More confident breath energy is necessary to sing high tones. In order to sing extended phrases, the breath supply must remain ample through the final note.

The amount of air that escapes during phonation affects the quality of the tone. A singer must be able to control the amount of air that escapes. For interpretive purposes the "breathy" quality has some usefulness.

Lyric-legato, sostenuto style of singing requires a continuous flow of breath from tone to tone. Conservation of the breath supply is necessary for interpretive phrasing, and adequate breath pressure is vital to equalize vowel production within a phrase.

Because the breath is the power source for singing, it is an essential element in every aspect of tone production. It is the thread of continuity throughout the process of singing.

Comparison of Sources

Breathing is an integral part of singing, and leading authorities, such as Christy, Appelman, and Vennard, include definitive explanations of breathing in relationship to singing. The physical and psychological aspects of breathing are described and the information contains both anatomy and acoustics.

Christy, Appelman, and Vennard explain the anatomy involved in the three kinds of breathing. They concur that the steps of respiration are

inhalation and exhalation, and they all prescribe posture as an essential element of tone production.

Appelman says that expiration for singing is not passive, as it is for living, but is controlled and stabilized breathing. Support becomes an act of constant breath pressure sustaining the sound. In The Common Sense of Singing Baker agrees with Appelman, affirming that it is not the singer's objective to store the air after inhalation, but to control the exhalation.

Vennard states his idea in a different way by preferring the expression "breath management" which denotes freedom rather than breath control. He cautions that the production of free flowing tones should be taught before the management of breath.

Burgin concludes the chapter on "Breathing" with examples representing the mechanistic-scientific method (Appelman) and the empirical school (Baker). He considers these to be comprehensive statements on the methodology of breathing for singing, representing the two opposing approaches to singing instruction: "The first technique of body control and support requires a sensation of abdominal pressure being countered by thoracic resistance in such a manner that the abdominal pressure is always greater than the resisting antagonist forces created by the muscles that comprise the rib-rasier group. . . . The muscular sensation of effort is felt above the belt line. . . . The second technique of body control and support is one in which the singer releases the dominating pressure of the abdominal and back musculature and employs a balanced suspension of thoracic and abdominal

muscular forces that enable him to sustain the quiet vocalized sound with apparent ease. "6

"Before I conclude this chapter on breathing, may I offer these warnings: (1) Let there be no forcing of the breath against the vocal cords. (2) Never stiffen the diaphragm before the act of singing in order to (what is called) 'support the tone.' A stiff diaphragm does not support the tone; it only stiffens it and eventually destroys it. (3) Methods of singing, the aim of which is to control breathing is muscular action or actions, are basically wrong. (4) Do not be misled into thinking that one's ability to juggle with names like Thorax, Trachea, Glottis, Pharynx, or to know that the diaphragm in a state of repose is the shape of a dome, will help one to breath or sing any better. It is useful knowledge about the anatomy of singing but it has nothing whatever to do with the art of singing. "7

Summary

Respiration is a vital aspect of artistic tone production. The singer should be aware of the importance of erect posture and the physical sensations which are associated with correct diaphragmatic-costal breathing. Awareness of the muscular functions will enable the singer to habitually coordinate the body muscles and the singing mechanism.

Breathing for singing is best understood in four stages--inhalation, suspension, exhalation, and recovery. The moment of suspension is the crucial balance between inspiration and expiration and the beginning of

breath resistance. The inexperienced singer should allow for the recovery phase in order to stabilize the muscles of respiration.

Conservative utilization of the air supply requires both scientific knowledge and psychological condition. Isolated vocal exercises and sound effects can enable the singer to experiment with breath pressure and desired muscle coordination. Breath control is most adequately taught through the use of song material. Psychological conditioning can be achieved through the interpretation of the text. The expression for melodic phrasing and the dynamic contrasts of a song are two factors which are accomplished through control of the breath supply.

Before inhalation, the singer should imagine the sound of the desired tone and the mood for interpretive effect. These mental concepts help the singer create the preferred tone quality.

Expansive use of breath energy for high notes or dramatic effect will aid in habituating the proper physical sensations of muscular utilization which are: (1) a constant spinal stretch; (2) a high and quiet chest before inhalation; (3) the outward expansive lift at the waistline; (4) the firm, steady diaphragmatic action of holding back.

Chapter Two

Vowels

Vowels contain properties for resonance and tone color alterations as they are emitted through the act of singing. The purpose of this investigation is to find ways to help students understand the physical formation of each vowel so that their transmission will achieve the ultimate in desired beauty of tone, quality of singing, and interpretation of meaning.

Objectives

1. To define the basic vowels and cite diphthongs and triphthongs of the English language.
2. To describe the positions of the mouth for natural resonance.
3. To include a vocabulary of terms used in specific reference to vowels.
4. To relate various concepts of vowel production.
5. To summarize conclusions.

Basic Vowels, Diphthongs, and Triphthongs

A vowel is defined as "a voiced speech sound which originates in the larynx and passes unhindered through the channel formed by the throat and mouth."⁸ Christy says that vowels are the beauty elements that carry the tone. Each vowel is caused by intricate and minute adjustments of the lips, tongue, soft palate, pharyngeal, and oral cavities.

Five English vowels and equivalent sounds are:

Ä - Ah, as in father

Ä - Ay, as in bay

E - Ee, as in see

O - Oh, as in Oh!

Ö (or U) - Oo, as in room

Other English vowels commonly encountered are:

ä, as in sat

i, as in sit

oo, as in foot

ü, as in up

ë, as in set

ô, as in awe

ä or û, as in away

Double vowels:

Inverted diphthongs: (stress on

ä - Ay-ee or Ay-i, as in day

the second part)

i - Ah-ee or Ah-i, as in by

e - ee-oo, as in dew

o - Oh-oo, as in no

ü - oo-uh, as in one

Diphthongs and triphthongs:

oi - Aw-ee or Aw-i, as in oil

ou - Ah-oo, as in thou

ou - Oh-oo, as in dough

ow - Ah-oo, as in cow

oy - Ay-ee or Aw-i, as in boy

Natural Vowel Resonance

For the most effective vowel production, the tongue should lie loosely forward in the mouth with the tip barely touching the base of the lower teeth. Mouth space should remain unchanged for all vowels sung on one pitch level. The mouth should open slightly for higher pitches and louder dynamics and close slightly on lower pitches and softer dynamics. The lips should be flexible and never set.

The production of the five basic vowels will be considered separately.

1. A, as in father - The jaw should drop naturally and the singer should have the feeling of a ringing tone far forward in the lips. Christy suggests that the singer first sing "oh!" to get the proper jaw drop and keeping the same mouth space and lip position change the vowel to "ah."
2. Ay, as in bay - Insufficient vibrating space in the larynx may result in a shrill or tense tone; therefore, it is suggested to first sing "uh," as in up. Without changing position, merge the sound to "ay" for the proper mouth space. Major vibration sensations should be felt in the upper part of the pharynx.
3. Ee, as in see - Drop the jaw and feed the tone more breath energy to result in equal sonority with the other vowels. For more resonance, sing "oo," as in room, and change only the vowel to "ee."
4. Oh, as in no - The lips are rounded and kept away from the front teeth. All movement is focused forward throughout the tonal duration.
5. Oo, as in room - The lips move farther forward with a smaller lip opening but the position is basically the same for "oh." It should be thought ringing and brilliant with a feeling of vibration between the lips and front teeth. More breath energy is required than for "ah," "bh," or "ay" to equalize the sonority.

Vocabulary

It has been specified that the vowel is the vehicle of vocal tone production, conveying the emotional coloration for the expression and the interpretation of a song, and controlling the bright, dark, or medium tone color.

A vocabulary of words frequently used to describe vowels and their tone production include:

1. Modification is an alteration of the vowel coloring necessary for development of a vocal scale without interruption throughout its length.
2. Equalization is the ability to sing any series of vowels with evenness of resonating space and sameness of tonal color on one pitch.
3. Phonemic Accuracy is achieved through an awareness of how the vowel is physically produced. Linguistic analysis of this kind is a part of production and communication. Phonemic migration is accomplished psychologically, but is dependent upon physiological directives which deliberately and consciously manipulate the articulators and resonating system.
4. Covering comes from shaping the lips over the tone. Vennard says this makes it a matter of pronunciation which he concludes is partially true. However, he goes on to say that covering also includes the function of the larynx as the scale ascends, and that singing the modified rounded vowels on those upper tones tends to lower the voice box. The results of a low larynx is less tension and a better tone.

5. Focusing is a method of tone production which produces a certain reedy quality when the forward placement of the tone is felt in the masque of the face. Vennard presents a convincing case as to the merits and potential of beginning voice training with this method.

Concepts of Vowel Production

Writers differ in opinion concerning the importance of the vowel in singing. However, methodology is in conflict as to whether the empirical school of mind molding or the physical school of muscular control should be used to train singers. The bel canto tradition did not have the benefit of scientific data which is now available. In recent years scientific research has provided much information about the anatomy of the singing mechanism and the acoustical principles of sound. Technical books, like Appelman and Vennard, present detailed accounts of what transpires when the singer forms the vowel sounds and how each differs from the other in different registers of the voice. Appelman uses the word "psychophysical" to describe singing. This term implies a union of both schools (mind and body) to be necessary for singers to communicate fully with the listener.

Adler's book, The Art of Accompanying and Coaching, states that vowels require different positions of the speech apparatus and should not be interrupted by obstacles through the throat and mouth. Peterson, in Natural Singing and Expressive Conducting, explains further that the vowel has power and projection if it is free from consonant interference and throat tension.

Writers, such as Christy and Burgin, seem to agree that vowel sounds should be equal in quality, but should maintain the inherent vowel characteristics. The contrast of unique sounds made by each vowel facilitates word comprehension and adds variety. In the book Singing, Herbert Witherspoon gives a table of vocal faults and suggestions for phonetic correction. Many of these prescriptions utilize a vowel sound or a combination of vowel plus consonant sound to rehabilitate a problem area. The opposite can also be used. A consonant can be used to catapult a vowel into place.

Christy suggests that a legato line is achieved by sustaining the vowel until the last possible moment and then articulating the consonant. Delayed articulation is a habit of timing so that continuity is achieved by sustaining the tone from one syllable to the next by means of elongated vowels.

The technique of linking the final consonant in a word to the following syllable is called elision. It is sometimes used for a smooth legato line; however, the textual meaning must dictate the use of this method to avoid erroneous meanings.

Correct vowel production produces maximum tone with minimum breath according to Peterson. The singer can increase volume (through natural resonance), improve tone quality, and extend the upper and lower range by first learning to produce vowels correctly in the middle range.

Conclusions

The vowel is referred to as the essence of tone, the secret of legato singing, and the vehicle of emotional coloration. The inherent elements of

beauty of tone can be maintained through correct vowel formation. Singers must strive to equalize a series of vowels without drastic change in color or resonance. Steady breath control and a free tone, plus the feeling of a common resonating space, enables a singer to equate the quality of each vowel.

Since singing demands that vowel posture be held firmly in place for many seconds, textual intelligibility depends upon the firmness of consonant articulation before and after the vowel. Textual meaning of the words must be communicated to the listener, and the composite package of vowels and consonants convey this. Vowel color is influenced by the linguistic environment in which it occurs.

Natural resonance potential is attained by an open throat and maximum mouth space. The "yawn" raises the soft palate and can be used to simulate the sensation of openness and freedom in the mouth and throat.

The vowels are useful tools for vocalises, warm-up exercises, and correction of isolated vocal faults. A vowel sound can be used to sensitize the singer to the physical sensations of tone production and can be learned from imitation as well as verbal explanation.

Chapter Three

Singing Diction

The communication of sung words is conveyed to the listener through elongated vowels and rapidly articulated consonants. The purpose of this inquiry is to find ways to help singers employ diction successfully.

Objectives

1. To define the areas of English diction specifying the vital role diction plays in vocal music.
2. To verify the importance of consonants.
3. To inventory materials related to diction.
4. To delineate useful conclusions.

The Importance of Diction

Diction includes pronouncing words, enunciating vowels, and syllables, and articulating consonants. Our method of communication in vocal music is through words as well as tonal mood of the music; therefore, it is important that the words be intelligible to the listener.

A singer should sing naturally as in speaking, practice reading lyrics aloud, follow standard pronunciation, and communicate the meaning of the texts.

The Significance of Consonants

Consonants are the rhythm makers and should be articulated at exactly the right time to insure precise rhythm; however, they should not interrupt the vowel formation until the last split second of the duration. Articulation should be distinct, free, and rapid as in dramatic speech. To avoid scooping or poor intonation, the pitch of the consonant should be the same as the preceding vowel. The proper consonant sound must be used without substitution.

Accentuating the consonant will intensify words in dramatic situations. Appelman says these can be anticipated by proper preparation of the articulators, and suggests that the consonant occur slightly before the beat. Fuch's The Art of Singing and Voice Technique, concurs that the more dramatic the song, the more important the consonants.

The Singers Manual of English Diction assigns consonants a prominent role: "They project the voice. They focus it. They enhance the volume. They supply carrying power. They are as vital to singing an effective pianissimo as in creating a stirring fortissimo."⁹

Areas Affecting Diction

Although diction has been defined as a three-fold act including enunciation, pronunciation, and articulation, it can be considered a composite of other facets of communication. Appelman contends that singing style and personality are part of good diction.

The National Association of Teachers of Singing is quoted in Burgin saying: "Diction, in its complete sense, means not only the clear, beautiful,

sensitive, and intelligible communication of language, but the whole technique and art of song text delivery."¹⁰

Sensitivity to text is what the singer does with the word to enhance its meaning by using stress and intensity through refined techniques of articulation. Choosing the proper phoneme to assure the correct pronunciation makes the word come to life so that the listener may understand instantly the emotional content and meaning. Within the personal dimension of text sensitivity, the song becomes a success or failure because the singer heightens the meaning of the word.

Summary

Precise diction produces communication and for that reason it involves much more than the percussive interpolation of consonants at precisely the correct moment. Enunciation, pronunciation, and articulation become only means to an end. Exaggeration of the consonants is necessary but it should be done judiciously with common sense and good taste. Singers should use the preferred speaking pronunciations. Flexibility of tongue, lips, and jaw is an asset because crisp consonants demand agility and freedom from tension.

Detection of diction errors is necessary before correction is possible. A teacher should listen for habits such as humming the "m," "n," or "ng" sound too long, closing the final word ending too soon, or anticipating consonants such as the "r." Colloquial speech habits carry over into singing and should be avoided.

Good diction enhances rhythmic accuracy, communication through word projection, dramatic interpretation, and expressive performance. A well focused tone quality cannot compensate for ambiguous consonants and obscure vowels. Attention to the principles of accurate diction can become an asset to a singer and will enable him to make immediate improvements in singing technique and communicative skill.

Footnotes

- ¹John Burgin, Teaching Singing (The Scarecrow Press: Metuchen, 1973), p. 96.
- ²William Vennard, Singing: The Mechanism and Technic, rev. ed. (New York: Carl Fischer, 1964), p. 106.
- ³W. E. Ross, Secrets of Singing (Bloomington, By the author, University Bookstore, 1959), p. 14.
- ⁴Ross, p. 38.
- ⁵Van A. Christy, Foundations of Singing 3rd ed. (Dubuque: William C. Brown, 1965), p. 221.
- ⁶Burgin, p. 58.
- ⁷Ibid.
- ⁸Kurt Adler, Phonetics and Diction in Singing (Minneapolis: University of Minnesota Press, 1967), p. 5.
- ⁹Madeleine Marshall, The Singers Manual of English Diction (New York: G. Schirmer, 1953), p. 5.
- ¹⁰Burgin, p. 140.

Annotated Bibliography

Adler, Kurt. The Art of Accompanying and Coaching. Minneapolis: University of Minnesota Press, 1965.

The title describes the essence of the book. He also includes a chapter on diction for English with additional chapters on the Romance languages.

_____. Phonetics and Diction in Singing. Minneapolis: University of Minnesota Press, 1967.

The first chapter is a definitive analysis of the importance of vowels and consonants related to singing. Subsequent chapters deal with foreign languages.

Appelman, D. Ralph. The Science of Vocal Pedagogy. Bloomington: Indiana University Press, 1967.

The text and recording are audio-visual and presents both physiological and acoustical evidence related to singing. The record demonstrates sounds and phenomenon explained in the book.

Baker, George. The Common Sense of Singing. Oxford: Pergamon Press, 1963.

This is a plain man's guide to singing.

Burgin, John. Teaching Singing. Metuchen: The Scarecrow Press, 1973.

The author has undertaken a survey of concepts used in training the singing voice and catalogued and tallied the number and kinds of citations in his book in comparison to similar statements in Training the Singing Voice: An Analysis of the Working Concepts Contained in Recent Contributions to

Vocal Pedagogy (1928-1942, by Victor Alexander Fields. Burgin's book provides a wealth of information about research in each category.

Christy, Van A., Expressive Singing, Vol. 2. Dubuque: W.C. Brown Company, 1961.

This comprehensive volume is the teachers' manual and companion book to Expressive Singing, Vol. 1 designed for class voice. It has a commendable section of anthologies and solo song material in print.

_____. Foundations in Singing. 3rd edition. Dubuque: William C. Brown Company, 1965.

A textbook for the singer which includes basic techniques for singing and song interpretation. This book has the most easily comprehended analysis of each area under investigation.

Fuchs, Viktor. The Art of Singing and Voice Technique. New York: London House and Maxwell, 1964.

This author has a performance and teaching background, and his advice is easy to understand.

Groves, Dictionary of Music and Musicians, 5th edition, edited by Eric Bloom, "Voice Training" Vol. IX. New York: St. Martins Press, 1954.

Kagen, Sergius. On Studying Singing. New York: Rinehart and Co. 1950.

This brief book is about who, when, where, and why people should study voice.

Marshall, Madeleine. The Singers Manual of English Diction. New York: G. Schirmer, 1953.

This account provides catagorical analysis of the sounds of the English language.

Peterson, Paul. Natural Singing and Expressive Conducting. Revised edition, Winston-Salem: John F. Blair, 1966.

A textbook approach maintaining that vocal techniques are the same for soloist and chorister has been developed by Peterson.

Ross, W.E. Secrets of Singing. Bloomington: By the author, University Bookstore, 1959.

Ross made an early attempt to analyze the methods and techniques of vocal pedagogy and to describe his own methods through a lesson plan format. His analysis of comparative methods is comprehensive.

Vennard, William. Singing: The Mechanism and Technic. Revised edition. New York: Carl Fischer, 1964.

As the name implies, Vennard has explained the elements of singing in mechanistic terms. He has experimented with X-ray and dissection of the portions of anatomy involved in tone production.

Westerman, Kenneth. Emergent Voice. Ann Arbor: Edwards Brothers, 1947.

Westerman approaches the study of singing in the order that the sounds emerge from the body. His premise is that posture is the foundation of the tone and respiration, phonation, resonance, and articulation occur in that order.

Witherspoon, Herbert, Singing. New York: Schirmer, 1925.

An early publication which presents very conventional methods of voice training. He included a table of vocal faults and their prescribed corrections through vowel and consonant combinations for vocalises.