

**REVIEW OF WRITINGS ON FALSETTO FROM  
SELECTED BOOKS ON THE VOICE**

by 6791

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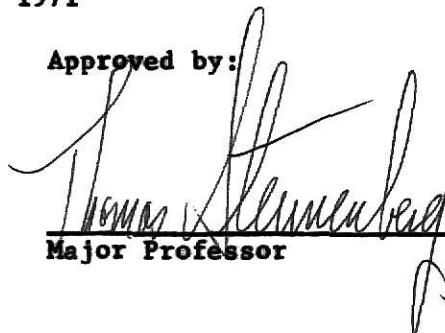
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## INTRODUCTION

There is certainly no lack of printed material on the subject of falsetto, but it is inaccessible to teachers because it is extremely fragmentary and rather diffusely distributed throughout a variety of books, periodicals, scientific papers, and reports of experiments that have never been correlated. Also, lack of standardization in vocal terminology and many writings in the past based on conjecture, have resulted in a confused plethora of theories regarding the falsetto, its production, and its usefulness.

The Harvard Dictionary describes "falsetto" as "an artificial method of singing used by male singers, particularly tenors, to obtain notes above the ordinary range of their voice. A well-trained falsetto voice, though lacking the powerful volume and the dramatic expressiveness of a tenor, has its own charm of a veiled and undynamic transparency; it stands in the relationship to the normal tenor voice as the recorder to the flute, the viol to the violin".<sup>1</sup>

The description in Grove's Dictionary of Music and Musicians, states that, "falsetto is a particular form of sound production at the larynx, sometimes adopted by male singers, and in the majority of cases, employed only when it is desired to reach a note above the ordinary range of the individual voice. In most instances, the tones of this mechanism are high-pitched, of feeble volume, of short duration, and poor quality".<sup>2</sup>

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<sup>1</sup>Willi Apel, Harvard Dictionary of Music (Cambridge: Harvard University Press, 1968), p. 255.

<sup>2</sup>V. E. Negus, "Falsetto," Grove's Dictionary of Music and Musicians (1954), III, pp. 13-14.

Victor Fields, in his book, Training the Singing Voice, quotes Evelyn Hagara as saying, "the transition from chest register to head register encompasses two or three tones where the registers appear to overlap. The ancients called these transitional notes the falsetto".<sup>3</sup> Fields also quotes V. E. Negus as saying, "the falsetto is a particular form of sound production at the larynx which employs a different mechanism for notes above the ordinary range of the individual male voice".<sup>4</sup> Bernice Hall, as quoted by Fields, defines falsetto as, "tone without speech reinforcement, tone without low resonance or speaking voice color".<sup>5</sup>

In early music, however, falsetto singing was highly esteemed. It was probably first applied to singers in liturgical music in the Roman Church, which did not permit the use of women. In the Sixteenth century, the polyphonic a cappella style had reached such complexity that it was difficult for boys to master it during the relatively short period before their voices changed. Tenors took over the highest parts, which they could only do in an unnatural way, by singing falsetto. Later, these tenori falsetti were replaced by Italian castrati. (Even as early as 1562, a castrato called Hydrionimus Rossinus was a member of the Papal Orchestra.)<sup>6</sup>

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<sup>3</sup>Evelyn Hagara, Vocal Secrets of the Ancients, p. 54, cited by Victor Alexander Fields, Training the Singing Voice (New York: King's Crown Press, 1966), p. 151.

<sup>4</sup>V. E. Negus, The Mechanism of the Larynx, p. 419, cited by Victor Alexander Fields, Training the Singing Voice (New York: King's Crown Press, 1966), p. 152.

<sup>5</sup>Bernice Hall, How the Head Tone Grows, p. 486, cited by Victor Alexander Fields, Training the Singing Voice (New York: King's Crown Press, 1966), p. 152.

<sup>6</sup>Viktor Fuchs, The Art of Singing and Voice Technique (New York: London House and Maxwell, 1964), p. 95.

Opera composers repeatedly use falsetto for special effects. Verdi asks for it when Falstaff imitates Mrs. Ford (Falstaff, Act I), and writes it so high that no baritone could reach it in a normal voice:



Puccini uses the same trick in Boheme, Act IV, where the baritone, Marcello, jokingly imitates a woman's singing and dancing:



Doctor Bartolo imitates Rosina in Barbieri di Siviglia by singing falsetto. Wagner uses "Fistelstimme" instead of falsetto to describe the comical effect he wants from Mime in Ring des Nibelungen.<sup>7</sup>

More recently, many vocal authorities include the study of falsetto as an integral part of vocal pedagogy. The purpose of this report is to provide a core of organized information which is available in Farrell Library at Kansas State University. This report includes only those books on singing that offer pertinent information on the subject of falsetto. The vocal music instructor will therefore find this report useful as a means of comparing his own teaching methods with the prevalent methodologies in the profession; as a source of useful information on certain unfamiliar aspects of falsetto; and

<sup>7</sup> Ibid., p. 96.

as a direction finder in selecting suitable sources of research when investigation is needed.

ACOUSTICS OF MUSIC. By Wilmer T. Bartholomew.  
New York: Prentice-Hall, Inc., 1942 (242p.)

Bartholomew states that no instrument can produce a tone that is absolutely pure, but that the falsetto "oo" is quite near this ideal, and is therefore called a pure or simple tone. A pure or simple tone is one produced by a vibrating body that vibrates in simple harmonic motion at a rate rapid enough to produce sound. Bartholomew quotes Miller as saying:

"Simple harmonic motion takes place in a straight line; it is vibratory, moving to and fro; it is periodic, repeating its movements regularly; there are instants of rest at the two extremes of the movement; starting from rest at one extreme the movement quickens till it reaches its central point, after which it slackens in reverse order till it comes to rest at the other extreme."<sup>8</sup>

The vibrato adds "life" or "warmth" to the tone, and voices which contain few or no overtones, such as the coloratura soprano or male falsetto, are heard as "hooty" or "cold". An explosive action of the vocal cords, (cords remaining closed for half or more of the vibratory cycle, opening for a relatively short, sharp, explosive puff, and quickly closing again), permits many overtones to be present. For sopranos and falsetto male voices, there is an increasing tendency for the puffs to become less explosive, the cords remaining open for a greater part of the time of each fundamental cycle. It is as if the cords then act less as reeds and more as if they were being bowed by the air stream. Oscillograph records of soprano tones and male falsettos rarely show the presence of more than the

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<sup>8</sup>Dayton C. Miller, The Science of Musical Sounds (New York: The Macmillan Co., 1916), p. 6.

the third partial in any appreciable amount, and frequently nothing but the octave or just the fundamental sine curve.

THE GENTLE ART OF SINGING. By Henry J. Wood. Vol. IV.  
New York: Oxford University Press, 1927. (IV, 95p.)

Wood recommends the use of a heady falsetto tone in the development and practice of Messa di Voce. He describes Messa di Voce as the Italian expression for the art of rendering a note with varied breath pressure; for instance, starting a long note piano, swelling it to forte, and then making a diminuendo back to the original piano tone. The Messa di Voce constitutes one of the singer's most difficult accomplishments and, if it be practiced before his tone is firmly set, the effect on his intonation may be disastrous.

Before practicing exercises for development of the Messa di Voce, Wood reviews two methods of starting a note pianissimo:

The first method involves starting the pianissimo with a very light heady falsetto tone; the breath pressure is increased as far as it will last comfortably in this production, then, when increasing to mf, a "kick" can be felt in the larynx. The difficulty is to keep the throat still during this change of production.

The second method involves taking the whole Messa di Voce in one production. Before choosing the method for singing a long Messa di Voce, the singer should consider the word, the character he is portraying, the mood of the moment, the hall or theatre, and the nature of the accompaniment. The heady falsetto tone is often used too exclusively for pianissimo in Messa di Voce, for it keeps piano tone from carrying in a hall or theatre. With the second method, there is no change of production from ff to pp, only variation of breath pressure.



Wood states that the heady falsetto tone requires practically no study. It is produced by blowing very very lightly, and there is none of the laryngeal resistance by which all set tones are obtained.

### FIRST METHOD

*Moderato. Breathe slowly and calmly.* *start with a heady falsetto tone.* *Think down at the cords, bringing on full, set tone.* *Deepen vowel quality.*

**FEMALE VOICE** *pppp* *cresc. by increasing breath pressure.*

**MALE VOICE**

*ff* *Decrease breath pressure. lighten the vowel quality. Contract throat.* *Maintain chest expansion* *change to falsetto* *pppp*

### SECOND METHOD

*Moderato. Breathe slowly and calmly.* *start tone with a warm, set quality.* *Maintain a still, calm throat.* *chest expansion, swelling throat*

**FEMALE VOICE** *pp* *cresc. by increasing breath pressure*

**MALE VOICE**

*pp dim.* *Decrease breath pressure. Maintain openness of throat* *pp*

Wood instructs his students to practice the following exercises by starting and finishing with a heady falsetto tone:

The image displays three hand-drawn musical exercises, each consisting of a treble and bass staff. Each exercise features a crescendo from *pppp* to *f* and a decrescendo back to *pppp*, with a "Repeat 3 times" instruction.

- Exercise 1:** The treble staff contains a single melodic line of half notes. The bass staff contains a complex accompaniment of chords and moving lines. The exercise is marked *pppp* at the beginning and *pppp* at the end, with a *f* dynamic in the middle.
- Exercise 2:** The treble staff contains a single melodic line of half notes. The bass staff contains a complex accompaniment of chords and moving lines. The exercise is marked *pppp* at the beginning and *pppp* at the end, with a *f* dynamic in the middle.
- Exercise 3:** The treble staff contains a single melodic line of half notes. The bass staff contains a complex accompaniment of chords and moving lines. The exercise is marked *pppp* at the beginning and *pppp* at the end, with a *f* dynamic in the middle.

THE SCIENCE OF VOICE. By Douglas Stanley  
New York: Carl Fischer, Inc., 1929. (327p.)

Stanley does not apply the term "falsetto" to the upper register of the women's voice but refers to it as the weak, effeminate, and rather unpleasant sound first produced as an upper register tone by the male singer. He does strongly recommend the use of falsetto and states, "It is perfectly apparent that every great singer uses a developed and properly resonated falsetto, which is actually an integral part of his voice". It is usually impossible for the male to sing a high or pianissimo tone of passable quality without the use of falsetto.

In training a man's voice, it is first necessary to find and develop the falsetto, and this part of the voice is often so weak that, unlike a woman in the early stages, it is necessary for the pupil to sing it with a rather dark quality, at the start, using a dark "E" sound (rather like the French "u"). The dark, pure falsetto will be discovered at high pitches and will become weak as the pupil descends the scale. There is a great amount of breath expulsion due to the undeveloped condition of the muscles which actuate this register, but this must not be interfered with or the singer may find himself producing a "throaty", mixed-register tone. This muscular system will be strengthened by singing pure falsetto tones on the dark "E" vowel as loudly as possible, and by carrying this register up, and most important down. The falsetto will, ultimately, extend over practically the entire range of the voice.

Later the falsetto may be brightened using the bright "A" and "A" vowels. Then the male singer must learn to go from the falsetto to the lower register by keeping the throat rigid at the moment of adding the lower register and not changing the resonance conditions. At the same time,

the lower register must be trained, the quality becoming somewhat brighter as the singer ascends the scale. Ultimately, the upper register becomes so perfectly developed and co-ordinated that it is apparently lost as falsetto and the entire voice is then one continuous whole, the range extending practically as far as the falsetto will reach.

MAKE SINGING A JOY. By Adelaide Gescheidt.  
New York: R. L. Huntzinger, Inc., 1930 (69p.)

In Chapter IX of Make Singing a Joy, Adelaide Gescheidt discusses her reasons for not recommending the use of falsetto. Some instructors use the falsetto to stretch the upper range; others, accept it as the only way to sing mezza voce. Gescheidt states that falsetto should never be used at any age.

In the boy's choir, where it is often trained, it represents a poor imitation of the true, normal soprano voice. It is impossible to increase the power of tone, or to diminish it into softness, without decided change in quality and production. She states that the falsetto is simply a resonance that is confined to the choanae, or the entrance to the back of the nose and the dome of the head, and therefore, cannot be amplified. The true soft tone, on the contrary, gives opportunity for natural tone expression and can readily be amplified and still retain the same qualities.

Gescheidt agrees with the idea that a voice used too long in youth is very often lost in maturity. This need not happen if the voice, from the beginning of its training, is developed with knowledge based on natural laws, and expressed always in accordance with these laws, through the period of adult training.

CLASS-METHOD OF VOICE CULTURE. By D. A. Clippinger.  
Bryn Mawr, Pennsylvania: Oliver Ditson Co., 1933. (130p.)

Clippinger applies the term "falsetto" only to the male voice. It is the lightest mechanism in the male voice; it is harmless; and most tenors make use of it at one time or another. When it is resonated and blended with the head-voice, it gives the singer a perfect mechanism.

In order to pass through the pitches of C - F, the pitches of C#, D, Eb, and E# must be sung in mixed voice, which is a mixture of chest-voice, head-voice, and falsetto. If they are not mixed by the time the tenor reaches D or Eb, he will be shouting.


In mixing these tones, the feeling is that of relaxing the soft palate as if the current of tone were dividing--part of it going through the head and part through the mouth. It is as if a slight suggestion of "n" were in the tone, although the tone will by no means be nasal. This enables the singer to pass into the head-voice without losing the even scale or the brilliant quality.

Clippinger suggests the following exercises for practice in mixing the upper tones of the male voice, the tones from C to F:

#### Exercise No. I




## Exercise No. II




Oh \_\_\_\_\_  
 Ah \_\_\_\_\_  
 Begin with half voice. Crescendo descending. Transpose.

## Exercise No. III



ah \_\_\_\_\_ oh \_\_\_\_\_  
 ah \_\_\_\_\_ uh \_\_\_\_\_  
 The upper tone must be sung with effort.  
 Transpose

## Exercise No. IV



ah \_\_\_\_\_ oh \_\_\_\_\_ ah \_\_\_\_\_  
 Begin with "ah". On five of the key, change to "oh".

THE LIVING VOICE. By John C. Wilcox  
New York: Carl Fischer, Inc., 1935. (67p.)

Wilcox offers some very interesting suggestions for training both the young girls' and the young boys' voices with the aid of falsetto. He has carried forward experimental research with boys and girls from eight to sixteen years of age during a two year period. Boys whose voices had as yet manifested no sign of an approaching change, were encouraged to continue use of the falsetto register tone when singing, but were induced to systematically practice with a lower register tone at pitches below their present singing range. It was found that even young boys with light-weight treble voices could, when stimulated to inhale deeply and form vowels amply with a stabilized open throat, sing tones at low pitches which approximated, in a relative sense, the lower register tone as we recognize it in adult voices. This tone of heavier texture was carried up, gradually, as high as the boy was able to maintain it without throat collapse.

In checking voices of boys thus treated after the "change", it was noted that the usual pronounced "break" between high and low range, was greatly minimized and in some cases completely eliminated. When the boy subject for experimentation was one whose voice had already changed or was well along in the changing process, he was encouraged to sing in the lower register tone throughout whatever range was possible without undue effort, but to practice high pitch ranges in the falsetto register tone. Here again, the continued use of the high range falsetto tone banished the boy's fear of high pitch tones and greatly hastened the extension of range that could be used for singing in his matured tone.

Girls' voices do not present such an acute problem as they are not subject to the abrupt "change" that takes place in the boy's voice. Wilcox

suggests treating the girl's voice with the same principles used on the adult woman's voice. Regardless of whether the girl's voice promised to be soprano or contralto in its maturity, establish her lower register tone as completely as her age, physical stamina, and courage could permit, at relatively low pitch, and then proceed to carry that tone gradually upward through her vocal compass. Conversely, establish her falsetto register tone at very high pitch and stimulate her to use it in descending scales. Under this procedure, Wilcox has found that most girls of ten years are able to vocalize without physical strain from low "A-flat" to "E-flat" in altissimo. Girls of twelve or thirteen can usually reach slightly lower and higher pitches. The great majority of girls from fifteen years on are able to vocalize the three octaves, "F to F".

Wilcox suggests the following exercises to coordinate and develop the muscles involved in the production of falsetto register tone:

#### Exercise No. I

The image displays three staves of musical notation for Exercise No. I. Each staff is divided into two main sections: 'Lower Register' and 'Falsetto'. The 'Lower Register' section is marked with 'Ah' and consists of a series of notes ascending and then descending. The 'Falsetto' section is marked with 'Ah' and consists of a series of notes starting at a high pitch and descending. The exercises are designed to coordinate and develop the muscles involved in the production of falsetto register tone.



## Exercise No. II



Wilcox gives these specific instructions with Exercise No. I, for the female voice: First, sing the low register tones as indicated in notation; deep inhalation; open throat; mezzo-forte intensity. Then take a new inhalation, reestablishing the same condition of open throat and stimulated energy in the breathing muscles; let upper facial muscles spread in a smiling position until upper teeth are exposed and sing a very "bright" "Ah", in a very light-weight tone, attacking at high "C" and singing the descending octave diatonic scale. Diminish rather than increase the volume of tone while descending the scale to insure the retention of the falsetto register adjustment at medium range pitches.

Sopranos are often accustomed to singing the high "C" pitch in a "mixed" registration and are unable to produce a pure falsetto tone at this level. In this case, the pitch for attack should be moved higher. If it is impossible to produce a pure falsetto tone by direct attack on high pitches, then it is better to start on a medium range tone at such extreme pianissimo that the falsetto mechanism is employed. Exercise No. II is recommended for this purpose.

Concerning Exercise No. I, male singers usually find it easier to sing the falsetto tone on a very "open" and "dark" form of the vowel "E". The lower throat must be firmly open, larynx low, and the singer should then attempt to form the vowel "E" while the throat and mouth are as open as they would be for the normal vowel "A". The male falsetto tone may at first sound very "hollow" and "breathy", but with further practice, it will gradually become more compact, powerful and brilliant.

EMERGENT VOICE. By Kenneth N. Westerman  
Ann Arbor, Michigan: Edwards Brothers, Inc. 1955. 2nd Ed. (170p.)

In Chapter XIII, the Boy's Voice, Westerman discourages the use of the falsetto except as a usable production while developing the true mezzo-voce. There is no apparent injury from falsetto singing unless used so continuously that it becomes a permanent habit. The author has known several young men in their twenties who still sang in the same breathy tone they had developed as boy sopranos. The disability of falsetto to crescendo without breaking, its very limited power, and its restriction to the upper voice and the upper half of the middle range (in most students), gives it little value. However, it is valuable for choral effects in male choirs, where the mezzo-voce

is still undeveloped, and as a possible bridging from altos to baritones in male choirs, where the male section of basses is so strong that young voices might force their tones if allowed to continuously sing with the adults immediately after the voice change. It is Westerman's opinion, however, that the mezzo-voce should be developed in all voices as soon as possible and the falsetto completely abandoned.

The object of the next two exercises is to build the necessary muscular controls for pianissimo singing so that it is no longer necessary to use the falsetto.

#### Exercise No. I



#### Exercise No. II



To initiate Exercise No. I, it may be necessary to start on the G<sup>1</sup> with a pianissimo hum and sing the La, la, etc., to acquire the easy muscle feel of the hum pattern, then from B<sup>1</sup>, then D<sup>2</sup>, then the high G. To perform it with the ease for which it is designed, one must have complete freedom in the position of neck, head, throat, jaw, tongue, and lips. The student should start this exercise with a falsetto tone instead of a true mezzo-voce,

but as the exercise proceeds downward by half-steps, it will develop into clear mezzo-voce if one is constantly alert in the attempt to keep a very lightly balanced energy surge in the use of the abdominal lift with each new attack. It should start on G', the amount of breath taken should be so little that one is scarcely aware of any expansion, the feeling being merely a relaxation of the abdominal wall in order to take hold with the abdominal lift to sing the La, la, etc.

Exercise No. II serves three purposes: First, practice in mezzo-voce singing; second, practice in articulation of the total vowel range, for the ē, ä, and ōō represent the extremes in muscular activity in vowel pronunciation; and third, practice in the melodic line of the tonic and dominant seventh chords.

Starting with the m-hum, following into the lä syllable, the soft mezzo-voce tone is supported by a light, buoyant abdominal lift through the tonic chord line. Added support is given as the interval from 5 to 8 occurs, which is essential if muscle action remains free for the changing pronunciation from lä to rōō and lä to vē.

SECRETS OF SINGING. By William Ernest Ross.  
Bloomington, Indiana: Indiana University School of Music,  
1959. (194p.)

The subject of Lesson Plan No. 15 in Secrets of Singing, is: "The Falsetto Mechanism and the High Voice Mechanism". According to Ross, whether or not women have a falsetto is still a highly debatable question, so this lesson plan deals with the male changed voice.

Falsetto can be produced in the male changed voice by using the lips and mouth to enunciate the vowel sounds, particularly oh and oo, in the

high voice. The use of closed oh and oo in the falsetto register releases the vowel tension which holds the vocal cords in close approximation, and allows a constant escape of air. This allows the vocal cords to vibrate unhindered or undampened, which results in an upward displacement of the glottis because of the relaxation of the inner edges of the vocal cords. Ross calls this "lip falsetto", and the adjustment of the vocal cords, the "falsetto mechanism".

If the pharynx and mouth are used to enunciate the vowel sounds, a fundamental of vowel tension can be established which results in what sounds like a continuation of the low and middle voice quality. There is now a lateral displacement of the vocal chords; and as a result of an established vowel tension, the posterior or back part of the vocal cords are dampened, allowing only the anterior or front parts to vibrate. Ross calls this "pharynx falsetto" and the adjustment of the vocal cords, the "high voice mechanism".

Ross suggests the following procedure to change from the falsetto mechanism to the high voice mechanism through the process of dampening:

Sing closed "oh" softly, arpeggio fashion, to closed "oh" in the high voice while maintaining a closed position of the mouth and lips. This should result in falsetto quality because of undampened vocal cords. If a student finds it difficult to vocalize upward into a falsetto quality, have him start in a falsetto quality in the high voice and vocalize down arpeggio fashion. Then the student should sing open "oh" softly, arpeggio fashion, to closed "oh" in the high voice, while maintaining throughout the same open position of the mouth and lips. This should result in a continuation of normal quality, because of dampened vocal cords and mouth resonance. If a

student finds it difficult to dampen the vocal cords, have him change from a closed position to an open position of the mouth and lips, on one pitch in the high voice. Then sing open "oh" loudly, arpeggio fashion, to closed "oh" in the high voice, while maintaining the same open position of the mouth and lips. This should also result in what sounds like a continuation of normal quality because of dampened vocal cords and a strong pharyngeal resonance to supplement the mouth resonance.

When singing softly with a closed mouth and closed lip position, the change from the low voice mechanism to the falsetto mechanism is usually automatic. When singing softly with an open mouth and open lip position, the change is usually automatic unless there is pharyngeal interference. This change may be facilitated by using an open puckered or open square position. When singing loudly with an open mouth and open lip position, the change is more difficult to make because of the students lack of ability to make a change from postnasal resonance to a stronger mouth resonance while still maintaining his basic vowel tension.

THE ART OF SINGING AND VOICE TECHNIQUE. By Viktor Fuchs.  
New York: London House and Maxwell, 1964. (214p.)

Some interesting historical facts about the falsetto, which have been mentioned in the introduction of this paper, are included in Fuchs' section on the falsetto. His opinion on the use of the falsetto is very concise.

Fuchs describes the falsetto as a register in men's voices, which occurs when a male singer tries to sing soft notes above his natural range. Falsetto exists only in men's voices, and should never be used in reference to women's voices. The falsetto uses an entirely different mechanism from

normal production. The same tone cannot be sung with two different mechanisms, and therefore, a falsetto tone can never be developed to a chest or head tone; nor can it be developed to a forte.

A piano or pianissimo tone that can be developed to forte is a head tone and not a falsetto. Even a well-trained ear will mistake a head tone for falsetto when a lyric tenor sings a *descrescendo* in *mezza voce* to fil di voce. Skilled singers minimize the break between pianissimo head tone and falsetto by "colouring" the tones before and after the falsetto tones.

SINGING: THE PHYSICAL NATURE OF THE VOCAL ORGAN.  
By Frederick Husler and Yvonne Rodd-Marling.  
London: Faber and Faber, Ltd., 1965. (148p.)

Husler and Rodd-Marling report that there are two schools of thought concerning the vocal quality called "falsetto". Some oppose this quality from the conviction that this voice is unusable and harmful. Others, such as the old Italian schools of singing, consider the falsetto as a valuable part of singing.

These opinions contradict each other so radically that two different types of falsetto must be involved. The first one is a thin, breathy tone quality with no transition possible from it into the full voice. The falsetto meant by the second school is a supported tone out of which the full voice can be developed.

Whether collapsed or supported the falsetto is brought about by the stretching of the vocal folds, the vocalist remaining almost completely passive. In a supported falsetto, the chest bone-shield cartilage muscle, sterno-thyreoideus, acts as antagonist to reinforce the stretching process. The shield cartilage-tongue bone muscle, thyreo-hyoideus, also plays a

decisive part as opposer to the increased activity of the Closers. These muscles are illustrated in Figures 23, 25, 31, and 33.

Others muscles contributing indirectly to this elementary inspanning of the larynx are those that run from tongue bone to chest and tongue bone to shoulder (sterno-hyoideus and omo-hyoideus, fig. 38). These are particularly active in the production of the tenor's high b and e and the high b and upwards of the soprano and contralto.

All this causes a very considerable stretching of the vocal folds while the chink of the glottis is almost closed. The falsetto tone is placed forward and best practiced with the following vowels: Italian a (as in father), German ä (as in main without the final diphthong), Italian e (as in many, but brighter), and Italian i (as in see).

Husler and Rodd-Marling conclude that a voice without falsetto is not a singing voice. They refer to a statement by Tosi, which was quoted by F. Haböck. Francesco Tosi, the great master of the classical age of bel canto, had this to say about falsetto:

"Many masters let their pupils sing alto, either because they do not know how to find the falsetto, or because they are afraid of the work involved in looking for it.... Having acquired the falsetto, it must then be so blended with the natural voice that the one cannot be distinguished from the other. If this does not succeed completely, the voice will fall into registers and will, in consequence, lose its beauty."<sup>9</sup>

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<sup>9</sup> F. Haböck, Die Kastraten und ihre Gesangshunst (Berlin, 1927).



EXPRESSIVE SINGING. By Van A. Christy. Vol. I & II.  
Dubuque, Iowa: Wm. C. Brown, Co., 1967. (I, 208p.; II, 333p.)

In Volume II, of Expressive Singing, Van Christy bases his study of the upper part of the male voice on four types of tonal production that may be employed. They are the pure-falsetto, the mixed-falsetto, the chest-voice (carried up), and the head-voice.

The pure-falsetto is produced with the lightest type of adjustment of the vocal bands. This tone is anemic sounding and not useful for legitimate solo singing, but it needs to be practiced as an approach to the proper use of the head-voice and as a means of strengthening and balancing muscular action in the larynx. The pure-falsetto should also be used by immature voices in high-register chorus work to save the voices in practice.

The mixed-falsetto is used frequently in concert by many lyric tenors and some baritones. It is basically the same light vocal band adjustment as the pure-falsetto; however, more depth and warmth of tonal color, maximum "head" space, and more breath energy are used so that the tone matches up with a light type of lower register adjustment.

The chest-voice, when carried up, is loud, shouty, and strained in quality. This type of production is not recommended.

The desirable head-voice production in the upper register of the male voice, especially for loud intensities, has the primary vocal adjustment of the lower register, but the singer has learned to lighten the vocal bands, singing more on the "edges" and compensating by using more generous breath energy. Head-voice production has a feeling sensation in the throat similar to falsetto. It is a more robust tone and incapable of being sung with very soft dynamics on the higher tones. For this reason, many vocal authorities

contend that the mixed-falsetto must be mastered if the singer is to complete his upper range and also to sing top tones with soft dynamics.

Physiologists explain that there are only two sets of muscles in the larynx which control all singing and speaking: the thyroid and the arytenoid. There are only two registers in both the male and female voice; the lower register controlled by thyroid muscles and the upper (falsetto) register controlled by the arytenoid muscles. The high voice of all women singers is falsetto, but it is easy to blend and coordinate with the lower production, probably because of the shorter and more flexible vocal cords of the female voice.

The male voice is usually limited to a range of two octaves unless falsetto adjustment is employed to carry it up one more octave. Practicing falsetto will strengthen the crico-arytenoid muscles that are necessary for the mixed-falsetto or the true head-voice type of production. Usually, no constriction ever appears to accompany the singing of falsetto, and it can help in demonstrating how to strive for equal freedom in full round tones. The chief value in falsetto is in helping the student to find his head-voice when the chest-type voice has been carried too high.

In Volume I, Van Christy suggests these exercises and directions for practicing the falsetto:

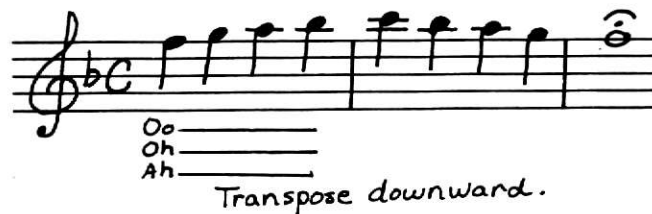
#### Exercise No. I

The musical notation for Exercise No. I consists of a single staff with a treble clef and a common time signature (C). The staff contains a series of notes, each with a fermata above it. The notes are arranged in a descending sequence, starting from a high pitch and moving down. Below the staff, the lyrics "Hoo, Hoh, Hah, etc." are written under the first three notes, with "etc." repeated under the subsequent notes. A handwritten instruction at the bottom reads: "Transpose downward; breathe and attack again after each note."

## Exercise No. II



## Exercise No. III



Sing these exercises with as vigorous breath support as the vocal bands can resist. Carry the falsetto down into as low range as possible even if only weak dynamics are achieved. Don't be particular about beautiful tone quality, but rather strive for increasing dynamics and range.

Practice the above exercises, first in falsetto, and then in mixed-falsetto until the resistance and strength of the arytenoid muscles are developed. Then use the same exercises for head-voice practice by placing them in a lower key at first. To "bridge" or balance the registers, strive in practice to carry the mixed-falsetto as low and resonant and the head-voice as high and light as possible.

SINGING, THE MECHANISM AND THE TECHNIC. By William Vennard.  
4th ed. rev. New York: Carl Fischer, Inc., 1967. (275p.)

Vennard describes the falsetto as the "lightest" register and applies this term to both the man and woman's voice. With men, the falsetto is usually their "unused register". Most beginning singers tend to sing all heavy or light and their unused register is something into which they lapse only by accident. Men usually develop a tense, heavy production to keep from sounding effeminate; and women, whose unused register is "chest", often sing entirely in light production to avoid masculinity.

The development of the unused register produces two good results. First, it builds muscular strength somewhere in the vocal instrument. Second, this practice gives the singer a "feel" of something that he should be doing, but which he probably does not when he uses only the other mechanism. Specifically, when a man sings in falsetto, he gets the feel of relaxation of the vibrator and activation of the breath that he does not achieve in chest voice. The falsetto may also be the means of discovering this head voice or *mezza voca*. In these adjustments, the vocalist muscles are not as relaxed as in falsetto, but they are much less active than in chest. This relaxation makes possible greater longitudinal tension and higher pitches, but the partial activity gives a continuity with the quality of chest voice. It does no harm for a man to develop his falsetto downward, but forcing the female chest voice upward is dangerous.

The larynx is often thought of only as a vibrator, but it is also a cavity and possibly our best resonance is here. Bartholomew reports that the "ring" of the voice is the presence of a strong overtone averaging around 2800-2900 cycles for men and 3200 cycles for women. This "ring" is

not always heard in falsetto, but its intensity varies with the extent to which the full voice is used. This absence of the "ring" in falsetto is due to the fact that there is less muscular resistance in the larynx and most of the breath pressure goes into the fundamental, leaving too little energy to sound upper partials.<sup>10</sup>

With an "electrical stethoscope", Lindsley made scientific measurements of vibrations in such places as the larynx, chest, top of head, front sinus, left and right sinuses, side of nose, pharynx, cheeks, occipital lobe, etc., during the phonation of "ah", "ee", "oo", and "m". His one interesting discovery was that the falsetto voice excites more response from the chest than from the cavities of the head. Vennard quotes Lindsley as saying:

"If the conventional theories concerning head resonance and the function of the sinuses are true, it would be logical to expect falsetto tones to incite the greatest response in the small resonators. The tenor who served as a subject was able to sing and sustain beautiful falsetto tones and I had a very good opportunity to measure the relative amounts of vibration produced thereby.... The actual amount of vibration measurable at the point of the sinus was very small, particularly for the "a" and "u", and....the amount of chest vibration was correspondingly large, approximately the same as produced by the first four tones in his natural singing range. The maximum intensity of vibration was recorded at the point of the larynx and the trachea."<sup>11</sup>

As was stated at the beginning, most beginning singers will use either a light or a heavy register, but both should be used and coordinated.

Vennard quotes Clippinger as saying:

"There is one place in voice training where the practice of the falsetto has a distinct value. I have seen many tenors and baritones who forced the heavy chest voice up until they developed an automatic clutch, and could sing the upper tones only with extreme effort. To allow them to continue in that way would never solve their problem.

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<sup>10</sup>Wilmer T. Bartholomew, Acoustics of Music (New York: Prentice-Hall, Inc., 1942).

<sup>11</sup>Charles Frederick Lindsley: Psycho-physical Determinants of Individual Differences in Voice Quality (Los Angeles, unpubl. dissertation, Ph.D., University of Southern California, 1932), p. 90.

It must be one thing or the other, either the thick chest voice or falsetto. The falsetto they can produce without effort, and herein lies its value. They become accustomed to hearing their high tones without the association of effort, and after a time the real voice appears. The thing which prevented the head voice from appearing in the beginning was extreme resistance, and as soon as the resistance disappeared the head voice made its appearance. This was accomplished by the practice of the very light register known as falsetto. When the head voice appears, the use of falsetto may be discontinued."<sup>12</sup>

It is not a matter of singing in one register up to a certain point and then shifting gears and continuing the scale in a different register. It is a matter of achieving a dynamic balance in which the best elements of both registers are functioning.

The flooding of the tone with breath is one way to avoid a "break" when passing through registers. A tone that "floats on the breath" has a kind of fluidity that makes possible variations in color without stopping the production. Some singers discover this release first by abandoning normal production and going into the unused register. In his own voice, Vennard finds a pinched falsetto and another that seems to take much more breath, but which acquires volume and nobility of tone. He has the same feeling of "blowing the tone open" when he sings his best tones in heavy full voice. When a student applies this technique, learned in falsetto, and carry with it some of the falsetto quality, they no longer have a static chest voice, but a dynamic one.

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<sup>12</sup>D. A. Clippinger, The Head Voice and Other Problems (Philadelphia: Oliver Ditson Co., 1917), p. 26.

## SUMMARY

With the exception of Bartholomew's Acoustics of Music, the books in this report are listed chronologically, according to publication date. Bartholomew gives important information about the physical nature of the vocal organ, but excludes any theories of vocal pedagogy. Contrary to some studies, in which opinions change chronologically, the opinion on the usefulness of Falsetto varies only from author to author. For instance, Gescheidt, 1930, and Fuchs, 1964, do not recommend the use of falsetto. They both state falsetto is an unnatural production and cannot be amplified or developed to a chest or head tone.

Only Wilcox, 1935, and Vennard, 1967, refer to the woman's highest register as falsetto. Others such as Ross, 1959, still considers whether or not a woman has a falsetto, a very debatable question.

Wood, 1927, incorporates the use of a heady falsetto tone in the development and practice of *Messa di Voce*.

Westerman, 1955, discourages the use of falsetto except as a usable production while developing a true mezzo-voce.

Falsetto is recommended by Wilcox, Van Christy, 1961, and Vennard, to avoid a break between registers and to eliminate fear of high tones.

Stanley, 1929, Clippinger, 1933, and Husler and Rodd-Marling, 1965, state that the falsetto is an integral part of the male voice. Stanley states that every great singer uses a developed and properly resonated falsetto. Clippinger agrees that when the falsetto is resonated and blended with the head voice, it gives the singer a perfect mechanism.

There is also a difference of opinion among authors about the physical nature of the vocal organ when producing falsetto. Bartholomew describes the falsetto "oo" as close to a pure or simple tone, with rarely more than the presence of the third partial, and frequently nothing but the octave or fundamental sine curve. In falsetto production, the cords act less as reeds and more as if they are being bowed by the air stream.

According to Ross, in order to produce falsetto, the vocal cords must vibrate unhindered, which results in an upward displacement of the glottis because of relaxation of the inner edges of the vocal cords.

Husler and Rodd-Marling report that falsetto is brought about by the stretching of the vocal folds, the vocalist remaining almost completely passive, while the chink of the glottis is almost closed.

Vennard reports on Lindsley's scientific measurements of vibration with an electrical stethoscope. It was discovered that the falsetto voice excites more response from the larynx and the trachea than from the cavities of the head.

As stated before, the opinions on falsetto are very diverse and sometimes confusing. This report offers sources of information suitable for research when investigation is needed.



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REVIEW OF WRITINGS ON FALSETTO FROM  
SELECTED BOOKS ON THE VOICE

by

SHARON LOU PENNER

B. S., Kansas State University, 1966

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AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

Department of Music

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

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There is certainly no lack of printed material on the subject of falsetto, but it is diffusely distributed throughout a variety of books. Also a lack of standardization in vocal terminology, and past writings based on conjecture have resulted in a confused overabundance of theories regarding the falsetto.

The purpose of this report is to survey information on falsetto from sources that are available in Farrell Library at Kansas State University. Only those books that offer pertinent material on the falsetto have been used.

W. T. Bartholomew, author of Acoustics of Music, gives scientific facts about the physical nature of the falsetto tone.

In The Gentle Art of Singing, H. J. Wood presents two methods of producing Messa di Voce, the first one requiring a falsetto tone. Exercises are included.

Douglas Stanley's The Science of Voice, includes instructions in developing the falsetto as an integral part of the voice. Emphasis is placed on the extension of the falsetto over the entire range of the voice.

In Chapter IX, of Make Singing a Joy, Adelaide Gescheidt states her reasons for not recommending the use of falsetto.

D. A. Clippinger, in Class-Methods of Voice Culture, recommends blending the chest voice, head voice, and falsetto in order for the male to produce his upper tones. Four exercises are included.

After two years of experimental research with young girls' and young boys' voices, John Wilcox in The Living Voice, gives specific information on the use of falsetto as a means to train the adolescent, as well as the adult voice. Exercises are included.

In Chapter XIII, of Emergent Voice, K. N. Westerman discourages the use of falsetto except as a usable production in developing the mezzo-voce. Exercises are included.

W. E. Ross, in Secrets of Singing, gives a procedure to change from the falsetto mechanism to the high voice mechanism through the process of dampening.

Viktor Fuchs, author of The Art of Singing, gives historical facts about the falsetto, but discourages its use.

In Singing: The Physical Nature of the Vocal Organ, by Husler and Rodd-Marling, scientific facts are given about the vocal muscles in the production of falsetto.

The use of mixed-falsetto and falsetto is recommended by Van Christy in Volumes I and II of Expressive Singing. Specific exercises for both tone productions are listed.

William Vennard, in Singing, the Mechanism and the Technique, describes the falsetto as the man's "unused register". His book includes information about the condition of the vocal organ in falsetto production, as well as methods for using falsetto.

With the exception of Bartholomew's Acoustics of Music, the books in this report are listed chronologically, according to publication date. Bartholomew gives important information about the physical nature of the vocal organ, but excludes any theories of vocal pedagogy. Contrary to some studies, in which opinions change chronologically, the opinion on the usefulness of falsetto varies only from author to author.