Education Journal
2026, Vol. 15, No. 6, pp. 271–276
https://doi.org/10.11648/j.edu.20261506.12

SciencePG
Science Publishing Group

Research Article

# Key Milestones of Vocal Pedagogy Throughout History

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## Abstract

To understand the present state of any form of technique, aesthetic or art, it is essential to follow in the footsteps of history. That's also the most solid way to move forward in any field of knowledge. So, the value of revisiting the history of vocal pedagogy lies in analyzing two premises: the vocal aesthetic ideal of each period is more easily traced through its leading authors, and pre-dominantly, since the nineteenth century, teaching methodology has not been explicitly grounded in the pursuit of the prevailing aesthetic ideal of vocal production. Our present state of loss of or misguided reference lies, largely, in the forgetfulness of the field's history. As stated, since the nineteenth century, each new frame of reference has claimed as its method a physiological technique that would support it. It is therefore necessary to understand how the literature associates the concepts of physiology and aesthetics. Are instructions and observations expressed as right or wrong, good or bad, even healthy or unhealthy, aesthetic or technical? Are they, consciously or not, imbued with a value judgment—that is, with an aesthetic? This is the reason for the present methodology of reviewing the historical literature from its beginnings. Over the span of time just mentioned, vocal pedagogy has tended to concentrate on physiological actions, with an emphasis on synesthetic sensations whose acoustic result is theoretically predictable, rather than on the search for a vocal timbre that approaches the desired aesthetic ideal.

## Keywords

Voice, Singing, Vocal Pedagogy, History, Aesthetic, Technique

## 1. The Beginnings of Vocal Pedagogy

The genealogy of singing pedagogy extends along a line that, in written form, begins in the seventh century CE. Because these early sources are rare and widely spaced in time, and because, with a few exceptions, they point to the same aesthetic ideal,[1] the masters who preceded Giulio Caccini (1551–1618) will be treated here as a group. This first group wrote about singing in church—that is, for male singers.

The earliest surviving writings on the subject are two works by the Spanish churchman and scholar Isidore of Seville (ca. 560–636): the *Etymologiae* and *De ecclesiasticis officiis*. Discussing the soloist who sings the psalms, he writes: "A perfect voice is thus high, sweet and clear: high, so that it might soar up to the highest pitches; clear, so that it might fill the ears; sweet, so that the spirits of the listeners might be charmed" [1]. According to Dyer, this appears to describe a voice close to that of a lyric tenor.

[1]The term technique derives from the Greek technē, or art; as early as the Middle Ages it carried the sense of method—that is, the actions necessary to reach a goal. Aesthetics, or more specifically the aesthetic ideal, by contrast, is an idea one strives to attain. The dilemma might be explained by the opposition between teaching and learning singing centered on physiological actions and teaching and learning centered on the aesthetic ideal.

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**Received:** 16 October 2026; **Accepted:** 27 October 2026; **Published:** 12 November 2026

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Hieronymus de Moravia (fl. late thirteenth century), a Czech Dominican friar, distinguished three voices: the chest voice (*pectoris*), the throat voice (*gutturis*), and the head voice (*capitis*) [1]. Hieronymus held that none of these three voices should be joined to another; the chest voice is used for chest notes, and so on. He added that all the voices drew their vigor from the chest voice [1], and he therefore preferred singing in that register, advising against very low or very high notes.[2] Two ideas implicit in his work are worth emphasizing. The first arises when he speaks pejoratively of low notes as a "howl": he was probably pointing to vocal fry without naming it, and without that sound fitting within his concept of voice. The second lies in the fact that the word *join* did not mean, as we assume today, the same as *equalize*: each timbre belonging to a vocal register is used only for that register. This may seem a purely technical discussion, but his argument rests on an aesthetic of unequal registers.

The French abbot Saint Bernard of Clairvaux (1090–1153) urged his fellow monks to sing without sloth, drowsiness, or boredom,[3] admonishing them to be "neither singing through the nose with effeminate lisp, but bringing forth with virile resonance and affection voices worthy of the Holy Spirit" [1].[4]

The document *Instituta patrum de modo psallendi sive cantandi* (thirteenth century), produced by Cistercian monks, likewise addresses choral psalmody and prescribes singing "with an even voice, at steady tempo that is not excessively drawn out, but at a moderate pitch, not too quickly, but with a full, virile, lively and precise voice" [1]. The document lists the aesthetic faults of vocal sound, ranking the effeminate voice as the least desirable among them: "It was unacceptable from solo cantors... nor could it be tolerated in choral singing."

*De modo bene cantandi choralem cantum* (1474), by the German priest Conrad von Zabern (d. ca. 1481) of the diocese of Speyer, is the first manual devoted exclusively to vocal technique [2], even though its subject is the choral rather than the solo voice. The author appears to have disapproved of what is now called *belting*—carrying the chest voice as high as possible without breaking, while allowing the larynx to rise; he proposes instead a smooth passage between registers, permitting a gradual change in sound quality from one vocal register to the next. For Zabern, the good qualities of singing include accurate intonation; rhythm; a middle range in which everyone can sing (so that the larynx need neither rise nor fall); a rhythm that reflects the sentiment of the words; and singing with devotion, but without displays of polyphony or secular melodies. He lists faults to be avoided, among them the aspirated *h*, falsetto and the imitation of women, the imitation of animals, and the use of force [2]. Zabern's treatise offers clues that a vocal technique involving a lowered larynx was already in use at the time, although it was frowned upon: he criticizes singers who use their full voice on high notes [2, 3].

In his *Practica musicae* (1496), Franchinus Gaffurius (1451–1522) abhors exaggerated vibrato and shouted voices [4]. Ludovico Zacconi (1555–1627), by contrast, in his *Prattica di musica utile et necessaria si al compositore per comporre i canti suoi regolatamente, si anco al cantore* (1592), recommends vibrato: "tremolo should be used slight and pleasing;... it should always be used since use converts into habit... it facilitates the undertaking of *passaggi* [ornamentation]" [5].

Giovanni Camillo Maffei (d. 1573), in his letter "Discorso della voce e del modo d'apparare di cantar di garganta" (1562), states: "since the lowest voice exceeds and encompasses all the others, it must be considered the most perfect, the most noble, and the most generous" [6]. He also refers to a voice metaphorically called "black" [6]. This allusion to the "black" voice could be a reference to the technique that keeps the larynx from rising: the *voix sombr é* [7]. If this can be confirmed, it is perhaps the second allusion to this vocal maneuver.

In the Renaissance, until the end of the sixteenth century, vocal music rarely went beyond the limits of the staff. This reflected the aesthetic preference of the period: all preferred to use what we now call the modal register, without the larynx needing to rise or fall. The treatises dealt with church choirs and distinguished two registers: chest and *falsetto* (which is not what we now mean by falsetto, but rather mixed register). At times, the throat register was mentioned as a synonym for falsetto. And whether they advocate it or criticize it, the sources offer clear evidence of laryngeal lowering.

## 2. The Birth of Opera

With Caccini, one of the fathers of opera, a new aesthetic emerges. In his 1602 treatise *Le nuove musiche*, he asserts that in the old style a solo voice alone lacked the power to move the affections of the soul as it could in the new style [8, 9]. This does not appear to be a very radical change, except that it includes women and makes clear that the purpose of singing is "to move the affections"—that is, to stir dramatic emotion. Caccini advocated always singing with full voice rather than falsetto (here meaning relaxed thyroarytenoid muscles, not a synonym for mixed register), transposing to accommodate the voice, choosing another part when singing in ensemble, and he explains the usefulness of lowering the larynx (to keep the voice from becoming strident). Of great interest, too, is his opposition to the use of excessive coloratura, because it strips the singing of its dramatic force.

It is important to emphasize that Caccini, like Zabern, used the term *full voice* [8], making him the third author—after Zabern and Maffei—to suggest the existence of a lowered-larynx technique before the nineteenth century. Presumably, then, until after the beginning of the Baroque—that is, until the increasing use of coloratura in opera in the public theaters—singers employed, among other techniques, a lowered-larynx

[2] One may infer the exclusion of vocal fry or falsetto.

[3] This may indicate a rejection of the raised soft palate, a physiological movement associated with drowsiness and boredom.

[4] Although nasalized voices have metallic acoustic characteristics, they tend to produce lighter and brighter registers, which would distance them from the virile ideal being advocated.

technique, probably similar to the one we use today. References to Caccini's book have been found in at least two other authors of the period: in Michael Praetorius's treatise *Syntagma musicum* (1619) and in Marin Mersenne's *Harmonie universelle* (1636) [3].

In France, during the same period, Bénigne de Bacilly (ca. 1625–1690), in his treatise *Remarques curieuses sur l'art de bien chanter* (1668), takes up the subject of vibrato, which he calls *cadence*: in his view it was indispensable to a beautiful voice, along with clarity and sweetness [10].

## 3. Opera Seria

Francesco Antonio Pistocchi (1659–1726) of Bologna and Nicola Porpora (1686–1768) of Naples are regarded as major influences on the new vocal aesthetic of the eighteenth century, although neither left any written works. In the same century, in France, the singer and voice teacher Jean-Baptiste Bérard (fl. mid-eighteenth century) published his *L'art du chant* (1755), in which he advocates keeping the lower ribs expanded for breath control [5]. The two authors whose works reflect the standards of the period, and who still resonate today, are Pier Francesco Tosi (1653–1732) and Giambattista Mancini (1714–1800).

Tosi's *Opinioni de' cantori antichi e moderni o sieno osservazioni sopra il canto figurato* (1723) [11] was translated into English by the musician John Ernest Galliard (*Observations on the Florid Song*, 1742) [12] and translated into German, with commentary, by the theorist Johann Friedrich Agricola (*Anleitung zur Singkunst*, 1757). Tosi opens his treatise by praising Zarlino, who, at the time of the Florentine Camerata, engaged in an intellectual dispute with Galilei over the ideal form of singing and over which should take precedence: the Word, as in the Aristotelian tradition, or Music, as in the madrigalist tradition [11]. Mancini's treatise, *Pensieri, e riflessioni pratiche sopra il canto figurato* (1st ed. 1774; 2nd ed. 1777) [13, 14], enumerates and praises the great singers of the past. Both Tosi and Mancini show great musical concern for the correct execution of ornaments. Tosi, at the height of opera seria, and Mancini, near the end of that period, mark a different kind of vocal concern from that of Caccini and Venetian opera: the aesthetic of opera seria, which extends up to the new Romantic vocal technique. Italy witnessed the absolute reign of singers, especially the *castrati*. Virtuosity, range, ornaments, dynamics—in short, anything that might astonish the opera seria audience—were welcome. As a result, vocal range expanded considerably, and the use of more than one vocal register necessarily followed. Both Tosi and Mancini advocated, for *soprani*, the chest register up to D5 and falsetto or head register (which they considered synonymous) from there upward.[5] According to Wistreich, the vocal aesthetic desired at that time differed considerably from today's [15]. There was no need to equalize vocal timbre across the entire range; the emphasis was on a clear differentiation of registers, which were joined without breaks but not made equal. Acoustic modification of vowels was not permitted: singers were to work with pure vowels throughout the range and to sing without force or pressure. Unlike contemporary pedagogy, with its emphasis on voice placement, the teaching of singing—judging from Mancini's account—was based, at least at the outset, on bringing the student's whole voice out [14]. To execute the coloratura passages (*passaggi* and *accenti*) so common until Romanticism, one technique was certainly essential: *disposition*, which Bacilly describes as the ease with which some singers execute any kind of agility [10].

## 4. Romantic Singing

The nineteenth century opened with popular taste gradually changing and coming to reject the voice of the *castrati*. More than a reaction against the mutilation of boys, as is often suggested today, this rejection stemmed from the search for a contrasting sound between female and male characters. The great event that triggered the change in vocal technique was the high C sung from the chest (*ut de poitrine*) by the tenor Gilbert Duprez in Paris in 1837, in Gioachino Rossini's (1792–1868) opera *Guillaume Tell* (1829).[6]

The low-larynx technique was given the name *voix sombrée* [7], because lowering the larynx has the acoustic consequence of darkening (modifying) the vowels. The great effect of this physiological modification, in addition to increased volume and acoustic projection, is the sense of virility it conveys in male voices: a search for a definitive break with the aesthetic of the *castrati*. In other words, the low-larynx technique was a consequence of the search for greater intensity and virility,

[5] "The Extent of the full natural Voice terminates generally upon the fourth Space, which is C; or upon the fifth Line, which is D" [12]. From the translation by Galliard—a contemporary who had lived in Italy—it may be inferred that the clef in use was the C clef on the first line. "La giurisdizione della voce naturale, o di petto termina ordinariamente sul quarto spazio, o sulla quinta riga, e ivi principia il dominio del falsetto si nello ascendere alle note alte, che nel ritornare alla voce naturale ove consiste la difficoltà dell'unione" [11]. "Basterà dunque, che cominci a cantare la scala, per esempio, se è Soprano, dal Sol posto nel terzo rigo, e seguitando fino al D-la-sol-re del quarto spazio, osserverà che queste cinque voci saranno sonore, e la dirà con forza, chiarezza, e senza pena, perché proveniente da petto; se poi vorrá passare all'E-la-mi, quando l'organo non è valido, dirà questa nota con qualche più gran pena e fatica, ed in conseguenza più debole. Nel caso poi che lo scolare non abbia molta forza di petto, giungerà appena a cavare facilmente la voce dal C-sol-fa-ut, e dirà con più stento la voce da questo limite al D-la-sol-re. Se poi sianvi scolari mancanti di forza, non farà loro tanto difficile di giungere nel primo registro al B-mi, ma troveranno più arduo il passare al C-sol-fa-ut. Ora questa maggiore, o minore facilità tanto sensibile, nei casi indicati, e facile a distinguersi da chiunque vi porti la minima attenzione, é quella, da cui si deduce con sicurezza il cambiamento della voce, che arrivata al termine del primo registro, entrando nel secondo, naturalmente si riconosce più debole" [14]. "Le voci ordinariamente si dividono in due registri, che chiamansi, l'uno di petto, l'altro di testa, ossia falsetto. Ho detto ordinariamente, perchè si dà anche qualche raro esempio che qualcheduno riceve dalla natura il singolarissimo dono di potere eseguir tutto colla sola voce di petto" [14].

[6] Before that date, Giacomo and Giovanni David, father and son, were already reaching G4 with a lowered larynx [16]. Domenico Donzelli is said to have reached A4 in chest register [17].

not its cause. The theorist of this change was the Spaniard Manuel Patricio Rodríguez Garcia (1805–1906), father of the laryngoscopy still used today. The new aesthetic ideal encouraged a different way of using the voice, favoring the emergence—or recovery—of a new vocal technique. In *Mémoire sur la voix humaine* (1840) [18] and in *Traité complet de l'art du chant* (vol. 1, 1840; vol. 2, 1847) [19, 20], Garcia analyzes the vocal registers, the onset of tone with the *coup de glotte*, and, for the first time, the pursuit of equalized registers as an aesthetic ideal. He also discusses vowel modification, using terms such as *voce aperta/chiusa* and *copertura*. After observing his own larynx in motion with a dentist's mirror illuminated by mirrors that reflected sunlight (the first laryngoscopy), he wrote a paper for the Royal Society in London, "Observations on the Human Voice" (1855) [21]. Building on this paper, he issued another volume of his treatise (1856) [22] incorporating the findings of his experiment, and much later, in 1894, he produced a didactic book in question-and-answer form titled *Hints on Singing* [23]. Among his students were Jenny Lind (1820–1887) and Mathilde Marchesi (1821–1913), the latter also the author of a singing treatise, *Bel Canto: A Theoretical and Practical Vocal Method* (1897). It can be said that contemporary low-larynx vocal technique descends from Garcia's thought and work.

## 5. The Twentieth Century

The turn from the nineteenth to the twentieth century was a period of aesthetic change. At that time, two scientists—one a psychologist, the other a physician—wrote works that carried great weight for the new aesthetic and pedagogy of operatic singing. The physician was Henry Holbrook Curtis (1856–1920), author of *Voice Building and Tone Placing* (1896) [24]. In addition to inaugurating the use of synesthetic sensations in vocal pedagogy, Curtis advocated the reverse of Garcia: carrying the light register down to the lower limit of the range. The psychologist was Edward Wheeler Scripture (1864–1945), author of *Thinking, Feeling, Doing* (1895) [25] and *The New Psychology* (1897) [26], who studied synesthetic sensations and in a sense provided theoretical support for Curtis. Both had admirers among singers, one of whom was Lilli Lehmann (1848–1929), famous for her "helmet" of voice-placement sensations mapped according to pitch, depicted in her book *Meine Gesangskunst* (1902). Another was the Polish tenor Jean de Reszke (1850–1925), Curtis's principal clinical case, although he left no writings.

The branch of the literature that links vocal technique to discoveries in physiology, acoustics, and phonetics, incipiently inaugurated in 1855 by Manuel Garcia II, returned in the twentieth century, in 1967, with William Vennard's book [27]. Vennard's book was the greatest influence on singing in the second half of the twentieth century, a fact that Richard Miller grudgingly concedes [5]. Vennard anticipated much of the scientific consistency that came later, with the distinctive feature that his theory was integrated into vocal pedagogy.

## 6. The Twenty-First Century

From 1977 to 2006, Richard Miller made an enormous contribution to the vocal literature of the North American aesthetic, and his books [5, 28, 29] seek to ground an international aesthetic ideal that became increasingly prevalent after World War II. Miller made his name with a 1977 book in which he compares the technique and aesthetics of the English, Italian, French, and German national schools [28], paving the way for this fusion of national aesthetics. His books, despite their scientific rigor, are prescriptive in the manner of the old treatises, for despite his vast pedagogical experience and scientific knowledge, he is quite biased. It is his work that underpins the vocal aesthetic of the last decade of the twentieth century and the opening of the new millennium.

## 7. The Scientific Frame of Reference

In 1987 Johan Sundberg (b. 1936) published his book, which remains a solid scientific foundation on which modern theory of operatic singing draws [30]. A seldom-credited book, but one of unmatched scope and depth, is Ingo Titze's (b. 1941) *Principles of Voice Production* (2000) [31].

## 8. Concluding Remarks

The history of the works that shaped the singing aesthetic of each period reveals physiological foundations that sought either to change or to support that aesthetic. An aesthetic change also seems to presuppose a physiological variation in the use of the voice, even though many argue that, because the larynx lies below the level of consciousness, it cannot be controlled consciously. One example of the importance of knowing and surveying past vocal references is the observation that the use of metaphor in singing and the beginning of a vocal pedagogy based on synesthetic sensations occurred only at the turn of the twentieth century. We might hypothesize that this was precisely a response to the change in vocal aesthetics amply documented in sound recordings. Synesthetic sensations had always been present in operatic singing; after all, the vocal registers were named after them: chest, throat, nose, and head registers. Yet the treatises, generally speaking, make no reference to a concept that has been so important in the pedagogy of operatic singing since the twentieth century: the "sensation of voice placement." We might conjecture an aesthetic and technical change that has been present, subliminally and undetected, in the literature since the beginning of this transformation.

In this way, the principal aesthetics—albeit with some variation—were defined by their foremost exponents: the authors before the advent of opera; Caccini and the beginnings of opera; Tosi and Mancini in opera seria; Garcia and the dawn of Romanticism; Curtis and Scripture in the transition to the

twentieth century; Vennard in the middle of the twentieth century; and Miller at the end of the twentieth and the beginning of the twenty-first century.

## Abbreviations

UFRJ Universidade Federal do Rio de Janeiro

## Author Contributions

**Heliana Farah:** Conceptualization, Data curation, Investigation, Methodology, Resources, Visualization, Writing – original draft, Writing – review & editing

## Conflicts of Interest

The author declares no conflicts of interest.

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## Biography



**Heliana Farah** is a Member of the Vocal Department at the Universidade Federal do Rio de Janeiro (UFRJ), where she has taught since 2009. From 2017 to 2019 she was a Visiting Professor at the University of Bologna. She holds a PhD and a Master's degree in Musicology and a Bachelor's degree in Singing from UFRJ, and a Bachelor's degree in Economics from PUC-Rio. Her research focuses on the history of opera; the early recording industry; the history, technique, aesthetics, physiology and acoustics of the voice; and performers and performance practices at the turn of the twentieth century. She is the author of A Voz na Ópera – A Transição entre os Séculos XIX e XX (2020). She owns approximately one thousand 78 rpm records and is conducting research at the Museo del Disco d'Epoca. She has also directed and produced opera performances at UFRJ.

## Research Field

**Heliana Farah:** History of Opera, Operatic Staging, Vocal Technique, Operatic Discography, Early Recordings History, Early Sound Recording Technology