

Bel canto training in Niccolo Porpora's England with a twentieth century rationale

Beverly J. Ogdon
Del Mar, California

Contemporary physiological research and a growing recognition that messa voce is a significant exercise for vocal fold management are developments remarkably consonant with the structure and logic of voice pedagogy through the first half of the nineteenth century. The most useful volume for historical research is arguably editor Edward Foreman's pairing of singing manuals by Domenico Corri (1810/1968) and Nathan (1823/1836/1968) under the auspicious title, *The Porpora Tradition* (Foreman, 1968). The most famous of the bel canto teachers, with legendary castrate Caffarelli and Farinelli to his credit as well as hundreds of the finest singers of his day, Porpora (1687-1767) taught Corri from 1764 to 1767. Nathan was placed under Corri's tutelage while still quite young and became first his assistant and later an independent teacher. Although Foreman concludes that "read solely from the viewpoint of the Twentieth Century, (the two books) will prove nearly incomprehensible," a closer look and especially a comparison of the two with contemporary, Domenico Crivelli (n.d.), shows a composite picture of an almost rigid logic binding each skill in their art to the underlying messa di voce.

Messa di voce as foundation

A confusing aspect of the method of Porpora's student, Corri, is the plainness of exercises that look like musicianship training; he deals with intonation, ornaments, cadenzas, rhythmic patterns, and solfeggio, as if these things alone would produce cascades of effortless fioratura and the long breath lines and brilliant tone that made Farinelli such a formidable competitor. [See Pleasants, 1966 for (a) an account of a famous duel with a trumpeter (p. 71) and (b) a description by Fétis (1784-1871) of Porpora's famous single page (p. 67) where simplicity and ordering are strikingly similar to Corri's treatise.] Corri carefully documents *what* was practiced but, unfortunately, as part of a tradition he had no reason to doubt, he doesn't question *why*.

Corri says that he begins with the messa di voce in order "to acquire the art of taking breath and how to retain it by which is effected the swelling and dying of the Voice, the most important qualification in the vocal art, (which) may be learned in a few days by moderate, regular, and frequent practice." He warns, "After the exertion on any single note, which if practiced with proper energy will exhaust the breath leaving a palpitation of the lungs, forbear to proceed to the next note until this sensation is entirely subsided."

Lesson I shows an octave and a half gamut with each note allotted a complete breath and an underlying accompaniment of a single arpeggiated chord, which he says "are intended to give the notes their harmonic parts." He recommends an upright posture, a somewhat smiling mouth and a quick and deep inspiration as if to sigh, a Scottish or Italian "ah" sounded immediately as the sigh begins, "with delicate softness, increasing the tone to its loudest degree and diminishing it to the same point of softness with which you began." The subtitle of this lesson is *Messa di Voce, the Soul of Music*. This exercise practiced in the beginning for a few minutes only can be extended to an hour and in the case of singers aspiring to the theater to three or four hours in just a few weeks after which the remainder of the study can be addressed (Corri, 1810, pp. 11-15). From a modern viewpoint, Corri seems to be describing torsal strengthening, breath management and resonant tuning of overtones in this single gesture.

Ingo Titze, widely respected voice researcher, has recognized the importance of the messa di voce, its "first billing" in Rossini's book of vocalises entitled *Gorgheggi E Solfeggi* and in Concone's *Thirty Daily Exercises*, and its usefulness to coordinate opposing muscles in the larynx and learn "to balance lung pressure, cricothyroid activity, and thyroarytenoid activity in appropriate proportions" (Titze, 1996). He explains that as amplitude of vibration increases in the crescendo portion, stiffness of the vocal folds must be compensated by laryngeal muscles. He describes two ways in which the messa di voce can be executed; the one begins with the whole voice engaged at pianissimo level, a difficult maneuver and the other begins in a falsetto-like quality and gradually attains full timbre. The second way, he says, offers "much greater challenge and much greater benefit. . .because the adductor-abductor muscles must turn on and off gradually and in a differential fashion. . . (and) the lungs must change their pressure differentially." He concludes, "All in all, a large number of muscles within and below the larynx are being coordinated to execute the messa di voce" (Titze, 1996).

Which *messa di voce*? (Nathan)

But how are we to understand that this skill, which Titze says can take weeks to master on even a single pitch and only later be extended to a higher pitch, was executed by a nineteenth century novice on the first day? Nathan's input clears this up and makes this vocal gesture accessible not only to the beginning student, but to children, the aging singer, and as we now see, to future generations with no empirical knowledge of the skill. He says, "Should the foregoing explanation be considered unsatisfactory, the following quotations cannot fail to inspire the reader with a just idea of the sublime beauty. . .that is created by the various swellings and dyings of the voice." Quoting from Milton, Ossian, Shakespeare, Dante and others he gleans the following images:

Soft as love's sigh, or light as zephyr's blow, now sweet as waves that kiss the shelly shore, now deep and awful as the ocean's roar . . . Like to a harp-string stricken by the wind, the sound of her lament shall, rising o'er the seraph voices, touch the Almighty mind . . . This I that mingle in one sweet measure, the

past, the present, and future of pleasure, when memory links the tone that is gone with the blissful tone that's still in the ear, and hope from a heavenly note flies on to a note more heavenly still that is near (Nathan, 1836).

To help the student still further he graphically shows "every possible light and shade that sound is capable of effecting by various degrees of the crescendo and diminuendo." He says, "The *messa di voce* is one of the easiest requisites to acquire, on it depends the principle art of singing, for it sweetens, enriches, and gives that delicious roundness and fullness to the tone" (Nathan, 1836, pp. 150-154).

Just a few minutes of experimentation will convince the singer that emotion is the sole motivator in the type of *messa di voce* described by both Corri and Nathan, for it is this aural realization of the inherent energy and sensitivity of each singer that measures out the stress to the complex muscle organization in singing and infallibly guides the singer to the full measure of his individual talent. Nathan can say it is easy to learn since emotion-based as it is, all human beings have access to it and will never overstep the bounds of their own instrument if this union of feeling and tone are not violated. Steadiness of breath, an increasingly emphasized requirement after 1850, is not an issue in these methods. This *messa di voce* itself creates a feeling of reduced breath pressure above and below the fold; a feeling of perpetual motion in the tone is described by Corri (1810/1968) as knowing how to conserve the breath, give it and take it back again. However, Vaccai (1833/1975) implies a need to steady breath in Lesson I of his method, in which Metastasio's text describes a light breath, capable of feeding a flame without blowing it out.

Experimentation will show that emotionally provoked, this exercise causes changes over the whole instrument. Intercostal lift induces abdominal reaction for the entire duration of the breath; palatal flex (indeed the very lining of the vocal tract with all its curves and chambers seems affected) and reaction in the supporting structure of neck and face continue to be felt in every fiber of the body for as long as the tone continues. The ensuing tiredness feels more like a depletion of psychic energy or an exhaustion in the marrow of the bones, than a reaction to athletic exertion.

Crivelli's ornaments

Crivelli claims that study of the ornaments by his rules assists "the formation . . . of the voice by giving facility to the muscular action . . . overcoming any natural defects, and imparting steadiness and lightness to it, so that the singer may be able to express every variety of feeling and sentiment of the mind with as much ease as in speaking" (Crivelli, p. 41). Just as in speech, *appoggio* (in this case a sensation of leaning into the breath) is present at inception and with the help of the *messa di voce* simply gets drawn into the expanded parameters of song. Crivelli substitutes a symbol resembling "the beautiful form of the eye," a half circle to "express the idea of the effect of this exercise better than the usual (angular crescendo symbol) which does not convey to the mind the idea of a gradual expansion of sound" (Crivelli, p.22). This symbol seems to suggest harmonic expansion, a concept which Corri presents in Lesson II as a series of ascending-descending figures on

two adjacent pitches, (for instance, G-G#, G#-G) repeated eight times, with a *messa di voce* growing on the ascent, dying on the descent. The accompanist alters the harmonies on each repetition in a way that significantly changes the color and fullness in the tone. The singer becomes aware that he is adjusting pitch unconsciously in response to the harmonic function of the note he is singing and thereby learns to trust his voice to alter pitch by thought alone, or one might say, by ear alone (Corri, p. 22). This awareness of harmonic presence in the tuning is one of the bulwarks of their technique.

Corri applies this 'harmonics' phenomenon to chromatic and diatonic scales and Crivelli makes the connection clearer when he recommends learning the first scales by making every other note (2nd, 4th, 6th) a non-harmonic, always beginning on the *lowest* note of the scale since that corresponds with the onset of a *messa di voce*. He calls this non-harmonic note an *appoggiatura* regardless of its ornamental function and recommends that the ear elevate (sharp?) that tone, (Crivelli, n.d., pp. 42-45) a gesture which emphasizes the thinned or falsetto aspects of non-harmonics (or upper harmonics that are not so fundamental to the tuning) and creates a scale in which one note is in the harmonic envelope and the next allowed to remain outside of it. The ear, as it were, leans from a sharpened position of the non-harmonic into the full-fleshed harmonic note. For the torso, this provides a calisthenic of intercostal innervation and lift immediately followed by re-engagement of the full strength of the intercostal-abdominal *lotta vocale* of support. By interpreting this model gesture in relation to the *gruppetto*, *mordente*, *sincope*, *raddoppiato*, *puntata*, *nota legata* (Crivelli, n.d., pp. 46-59), the voice is cultivated and refined until the emotionally fueled *messa di voce*, often barely stirring but never static, controls the vocal instrument as a unit.

Corri does not describe the scales and ornaments in this way. But his work on the trill, which he introduces immediately after the slow carefully-tuned scales and intervals, is derived from the same principle. The harmonic tone, the lower note of the trill, must be preserved as the melodic imperative, part of a perfectly bound legato melodic gesture, while the higher note lies outside that envelope, a non-harmonic which he explicitly speeds to its apex and slows to its conclusion by the same gradations as the *messa di voce* (Corri, 1810/1968, pp. 30-31). This seems indicative of a laryngeal activity common to both the *messa di voce* and the trill. By preserving the full innervation of the vocal cord on the real note, the student avoids the singing in the nose, bleating, and *pianissimo* trills that these teachers decried and also practices a laryngeal gesture that can then be extended to four, six, eight or more notes in the *scaletta* and *cadenza*. The ear runs on ahead while the harmonic envelope is maintained. This is a level of skill that could not be hoped for once the original vocal gesture has been violated by pushing the breath, or just as damaging, weakly failing to maintain the natural "*appoggio*" of leaning into the sigh, a skill possessed by almost everyone in conversation, but frequently lost in training and then painstakingly regained.

Contemporary voice research

These methods train the voice as a single unit, preserving the individuality of the

singer and offering a method for acquiring the subtlety, force and clarity of spoken communication in a variety of musical styles while developing that ever more richly endowed coloration of overtones which history has dubbed *bel canto*. Understanding this, we find current research into vocal cord physiology doubly exciting, particularly as it relates to the nerve pathways between brain and larynx.

Pamela J. Davis, voice pathologist and important researcher in neural control of voice and breathing, reports on new evidence that a midbrain area called periaqueductal grey (PAG) may be a major player in vocalization. It is a primitive and unconscious part of the brain with known links to emotional expression, in animals to involuntary changes in body temperature, blood pressure, facial expression and vocalization, i.e., in response to fear. She writes that PAG links to the larynx may provide a readiness for vocalization and an emotion-related substrata for the more widely accepted involvement of higher brain, the cerebral cortex, input for language and communication. This research has shown, too, that PAG output is dependent on sensory input from the respiratory system and the larynx; also that PAG output for vocalization connects to the nucleus retroambigualis where the expiratory co-ordination of the laryngeal and respiratory muscles for voice appear to take place (Davis, 1998).

In an especially fascinating reference to evolution and foetal development, Dr. Davis describes the emergence of the larynx from fish to amphibian to mammal. First, muscle develops at the gateway to the lungs, acting as a regulatory valve to create back pressure in the lungs, a capability that millions of years later would be used for vocalization (1998). Little wonder that a singer feels transported to special states related to ritual, to bonds with the listener that go beyond other communications, to speaking a language he does not quite know!

Bandler, Keay, Vaughan, and Shipley (1996) in related research, have written that "the fact that PAG circuitry for sound production is embedded within other PAG neural networks that coordinate multiple, distinct integrated emotional responses helps to explain the emotional quality of all speech and song" (p. 147). These connections between brain, larynx and respiratory function and referentially, with emotional expressions of an even more global nature, suggest a vocal apparatus best trained as unit, by emotional rather than cognitive means.

Conclusion

These nineteenth century teachers probably did not fully appreciate the logic of their method; hence the digressions that make these treatises difficult. But instinctively they knew that emotion ruled vocalization, and that, as it swept through the sound source, the respiratory and vibratory muscles were taxed and became stronger. Through repetition, the sound became expanded, round and full, and in that fullness they found relationship between pitches. This discovery gave rise to legato singing and also to a clever education of the vibratory muscles since some notes could be made to carry the full harmonic information of the tone while others glided outside this envelope, controlled by the ear. By insisting on the presence of the *messa di voce* throughout the course of study,

they ensured that the unity of this primitive and largely unconscious system would hold, from sight singing to the boldest theatrical characterizations.

This rationale goes a long way toward explaining the beatific postures and facial expressions in photos illustrating Henry Pleasants's *Singers of the Golden Age* (1966). Also, it may be the missing element sought by Will Crutchfield (1986) in his article, "Vocal burnout at the opera."

Technique in singing is the development of the voice's physical capability to meet the demands of the music and respond to the artistic intentions of the singer. It involves the management of breath; the fine-tuning of muscular coordinations that are as yet only imperfectly understood by physiology; the mastery of various more or less mechanical feats of vocalization that may be called upon in a given score; the implanting of a mental image of the desired tone quality--and the integration of all these into a routine that will hold up through the stresses, passions, distractions, exhaustion and exhilaration of public performance . . . For about two centuries--from, say the middle of the 17th to the middle of the 19th--there was something like universal consensus on what were the desirable attributes of vocalism and how one achieved them.... The main attributes (of the model)--pure, unforced, steady tone; skill in quick, accurate movement; the easy carriage of the voice (portamento) through a smoothly bound (legato) musical line--are still given lip service. But the basis for that consensus collapsed over the course of the 19th century (p.56).

Returning the *messia di voce* to its central place in training would have far ranging implications, beginning with a logical invigoration of the little pieces of Vaccai, and extending to Verdi's use of these old ornamental gestures to shape his phrasing (and ease the singer's task), and beyond to the modern singer who sorely needs a flexible and emotionally fueled legato to make sense of the changing gestural vocabulary of composers such as Schoenberg, Webern, Krenek and their artistic progeny. Giambattista Mancini (1774/1777) gives witness to its central importance,

I have gone far beyond the call of duty reasoning so much on the *messia di voce*, but. . . it is so close to my heart that I could speak of it forever. I conclude by placing before your eyes a celebrated picture: I mean the estimable and valorous. . . Farinelli, who possessed the *messia di voce*...to such perfection that common agreement, and my own, was that it was responsible for his immortal fame in singing (p. 45-46).

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