

## The appropriation of the necessary technique in singing performance

Renata VARI<sup>1</sup>, Stela DRĂGULIN<sup>2</sup>

**Abstract:** *This article wants to highlight the fact that for an opera/operetta performer, just talent and voice are not enough, he must have a multilateral, detailed and disciplined training. Of course, the nature of the voice is the starting point of any path in subsequent evolution. To reach a high level of interpretation you have to go through certain stages of approaching an opera/operetta role. You can't start the road without knowing your vocal apparatus, its components and how to use it, for later to be able to get to the interpretation, style and personal note. A perfect opera/operetta performer will be the one who, in addition to his voice, is able to understand the subtleties of music and implicitly of the libretto, and will also have a very fair and organized technical and informational training, "The sincerity of the expressiveness of a voice that does not take into account the real personal potentials, she will be doubtful" (Cîmpeanu 1975, 28).*

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### 1. Introduction – The assimilation of anatomical and physical elements

A piece of music, in order to be understood and felt, must be transmitted through an execution as close as possible to perfection and as healthy as possible for the performer. Therefore, it is absolutely necessary for the artist to know his vocal apparatus, to have an impeccable technique and to develop of course the side of transmitting the message and the truthful interpretation.

In addition to support problems, in vocal resonance problems, a vocal soloist must master all the information about his vocal apparatus, and go through training, assumed and well-organized preparations.

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<sup>1</sup> PhD Candidate, Transilvania University of Braşov, Faculty of Music, [orshi7@yahoo.com](mailto:orshi7@yahoo.com);

<sup>2</sup> PhD, *Transilvania University of Braşov*, [steladragulin@yahoo.com](mailto:steladragulin@yahoo.com)

Art, in general, is not only colour, shape, sound, fable, but it represents a powerful form of reality, starting from a thorough knowledge of it and how we make it with the help of complex and appropriate technical means: *to be able to formulate and correctly expresses his own point of view on the different modes of musical language, in order to achieve that ascent to the work of art, and not imprisonment in a single template, the artist must be armed with theoretical knowledge and technical means, practical, precisely and variously conducted. Only in this way will he be able to perform the malleability and adaptation performances of the phonatory that will lead to the realization first of all of the "sound style of voice transmission", corresponding to the musical work, without which it is risky to speak of the possibility of achieving a faithful style aesthetic sense* (Husson 1968, 6).

### **1. 1. The vocal apparatus**

Sorina Creangă makes a very descriptive comparison in terms of acquiring the necessary information on this topic: *As the painter, for example, must know the specifics and symbolic meanings of each colour, the technique of different combinations, and the laws of geometry, perspective, chiaroscuro, etc., in order to obtain certain spatial, coloristic, shadow and light effects, in order to transmit a certain mood, likewise, the professional singer or actor is first of all obliged to know the devices by who performs the vocal emission, their biomechanics, as well as all the essential components that contribute to obtaining performance in voice and speech, and, last but not least, to know and respect the laws of artistic creation* (Creangă 2014, 5-6).

I will start by describing the vocal apparatus from the foundation to the roof. The foundation or the "engine" in singing, as I assimilate it and give it as an example to my students, is the breathing-support.

#### *1.1.1. The Breathing*

Respiration is the vital process by which the ambient air is inhaled and the lung air and water vapor included in it are exhaled. But for the singer, breathing has a very special meaning. As essential as life is, so is proper breathing for singing.

Breathing in singing goes through four essential stages: the first is inspiration, which before moving on to the expiration phase, or so-called dosing, must go through the laying stage, so that later the body reaches recovery.

The basic muscle, which contributes to the force of inspiration, is the diaphragm, which is a muscle in the shape of a double dome. Its fibres start from the sternum, from the lower ribs and from the spine and are inserted on a central tendon. It has an oblique orientation and separates the thorax from the abdomen, which, in contraction, flattens and thus increases the volume of the thorax, creating a partial void in the lungs. This gap is further magnified by the action of the external intercostal muscles up to the back, including the lumbar spine, which, in contraction, has the effect of raising or opening the ribs. The resulting void in the lungs from the action of these muscles creates space for ambient air to enter into the lungs.

The moment of the laying stage is the important moment of preparing the respiratory system to sing. After inspiration, we maintain the obtained position, by establishing a balance between the inspiratory and expiratory forces, activating all the muscles involved without tightening them.

The *active or controlled expiration* (Piso 2000, 99) phase is the time we emit the vocal sound. The singer's sensation in this phase should be to maintain the expansion or to hold the air, because the expiration takes place extremely gradually and slowly. The air must not be expelled by force from the lungs, but gradually and controlled, i.e. dosed. The muscle groups that help eliminate graduated carbon dioxide are the upper and lower abdominals. They support the dosed withdrawal of the diaphragm in its normal position, thus regulating the flow of the expiring air column.

Husson argues that *in singing, and especially in theatrical singing, expiratory actions are entirely controlled at the subglottic pressure level and the required airflow. The expiratory actions will therefore be seen varying according to: the vocal intensity necessary to be produced; the open or closed character of the vowel; emitted frequency; and the expressive intentions of the subject (which make the timbre of the voice vary)* (Husson 1968, 68).

The subglottic pressure is the one that, controlled by the larynx, has the role of a valve with alert rhythmic openings, regularly raising the intra-pharyngo-buccal pressure, subsequently achieving the progressive sound wave that is recognized as voice. In the use of the controlled voice in singing, this sub-glottic precision, necessary to establish the intensity of the sound at the request of the performer, is supported by the constant action of all or part of the expiratory muscles, making the breathing in the song fully conscious by the topic.

### 1.1.2. *The support*

The Support is the dynamic ratio between inhalation and exhalation forces, which aim to provide the necessary air pressure for the different needs of the song. This ratio is established during the second phase of respiration: the laying or moment of retention. In this phase, the balance is total and therefore no more air enters or leaves the lungs. The ratio of inhalation to exhalation forces can be seen as a struggle in which the forces are equal in the settlement phase, but which are slightly unbalanced in favour of the exhalation forces at the moment the phonation begins. In this way a pressure is exerted on the air in the lungs, which will be adjusted according to the desired height and intensity.

Air dosing refers to the dynamic relationship between the vocal cords and breath / air, this relationship determines how much can be sang on a single breath, i.e. our ability to have the control over the use of air in singing.

### 1.1.3. *The Larynx*

The larynx is the organ that represents the phonatory apparatus (Figure 1). First, it works like a valve protecting the trachea from food and drink that might otherwise enter it when swallowed. Also in its function as a valve, it increases physical strength when, with great effort, it hermetically closes the lower airways. I would like to point out here that the practice of closing the glottis when lifting heavy weights can damage the voice. The second function of the larynx is to produce vocal sound, *it is a tubular organ that is part of the lower respiratory tract, being at the same time the only organ of phonation... it should be noted that only the larynx produces sounds, and vocalization is performed in the resonant cavity* (Creangă 2014, 11).

The vocal cords are two symmetrical folds of the laryngeal mucosa, raised by the vocal ligaments as follows: the vocal ligaments stretch between the vocal process of *the arytenoid cartilage and the thyroid cartilage.* ([https://ro.wikipedia.org/wiki/Coardele\\_vocale](https://ro.wikipedia.org/wiki/Coardele_vocale) (Vocal Cords))

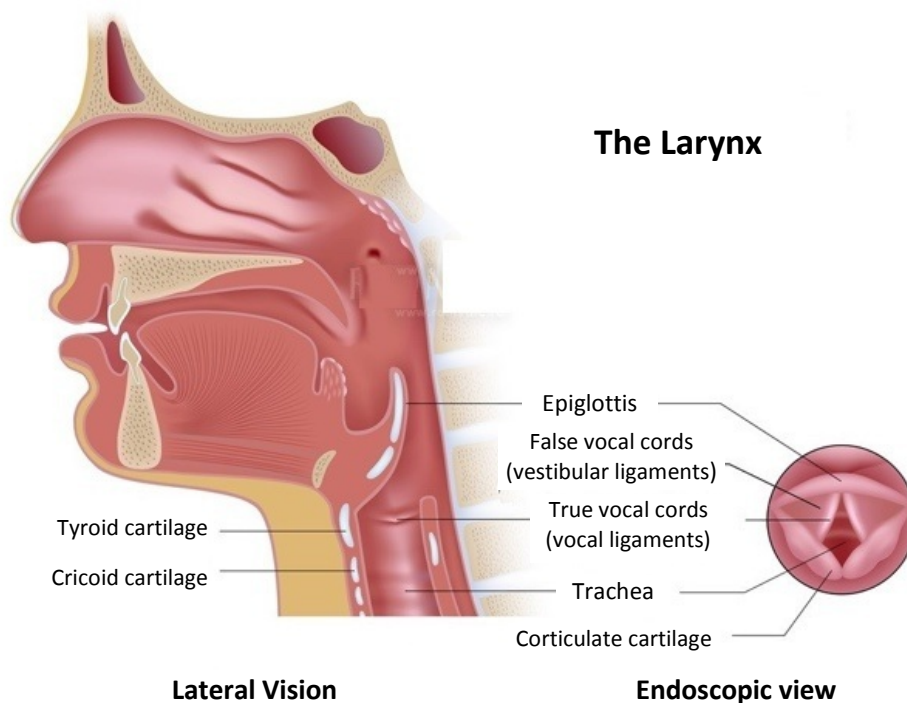


Fig.1. Side view of the larynx-components

The phonation process involves the addition of the vocal cords, i.e. closing the glute by attaching the strings to each other and putting them in vibration. Adduction is primarily a function of the arytenoid muscles that connect the two arytenoid cartilages. In contraction, these muscles bring the two cartilages closer together, closing the glottis. By "efficient" sounding we mean a sound with good efficiency compared to the air invested. In other words, an important goal of the singer student is to get a maximum of sound with a minimum of air. Effective phonation gives rise to "healthy", "core", "compact" sounds, and requires a good supply of vocal cords and subglottic pressure appropriate to the needs of the moment.

#### 1.1.4. The resonant cavities

The resonance in singing is the process by which the sound resulting from phonation is strengthened and beautified as it passes through the supraglottic

cavities (pharynx, oral cavity, nasal cavity). In phonation, the pharynx and the oral cavity, or nasal cavity in the case of nasal consonants and nasalized vowels, enter into vibration, both by normality and by induction, together with the vocal cords. These cavities become the resonators of the voice, each bringing its contribution to the final vocal sound, strengthening different harmonics depending on how they are used, thus amplifying the sound. Vocal resonance strengthens the sound emitted by the larynx, develops the timbre of the voice and determines the vowels on which it is sung.

First, the resonance affects the volume of the vocal sound. The resonators of the human voice increase the amplitude of the sound waves emitted at the level of the vocal cords, giving them a greater intensity. The sound of the voice measured at the strings is relatively weak, but the sound that enjoys a good resonance acquires a higher sonority.

Second, resonance determines the timbre of the voice. The term *stamp* refers to the so-called “colour” of a musical sound, which is determined by the relationship between the different harmonics present in that sound. In very general terms, more the harmonics are missing in a sound, or the weaker they are, the more that sound will be perceived as “empty” (for example, the sound of the flute). The more harmonics present in a sound and the louder they are, the more that sound will be perceived as “coloured”, “defined” (for example, the sound of the trumpet).

By strengthening the emitted sound and developing the timbre, the resonance gives the vocal sound penetration, power to be heard well in large spaces and even over an orchestral accompaniment rich in harmonics.

In order to master the application of all nuances of voice, it is necessary for the performer to first understand the distinct functions of the resonator, in order to be able to assist in the interpretive act of different types of emission depending on the requirements of the score and style always a homogeneity of the voice, implicitly its health. The goal of a singer is to harmoniously combine the two types of timbres, but this result can be reached only after much training and awareness of *the beauty of the voice constituted ninety-nine percent of the commanding power of a singer* (Garcia 1984, 36).

#### 1.1.5. The oral cavity

Last but not least, the oral cavity is the place where the sound ends, and the words are articulated. Articulation is the process by which the sound resulting from phonation and resonance is formed into intelligible units by the organs called

articulators. These are the tongue, which par excellence is *the shaper of the speech joint* (Piso 2000, 63), the mandible, the lips, the palatal veil, and the glottis. The stable supporters for the activity of these articulators are the hard palate, the alveoli and the teeth.

The tongue is the basic organ for pronunciation but not only, when the larynx descends and the soft palate grows, the tongue *sinks deep along the midline of the back, and the isthmus of the neck is oval in shape. If the veil decreases, the tongue grows and widens at the base, and these two organs can get closer to each other until they touch* (Garcia 1984, 1vii).

Also at the level of the oral cavity we identify the term of sound support, ie the end point, felt at the root of the upper incisors, best analysed by Jean Mouran, first baritone at the Paris Opera. He left his mark on the analysis of the positioning of the sound through the conception of *the constancy of the stimulation of the anterior region of this area, for all the vowels and all the tonal pitches.* (Husson 1968, 106) Even if it stretches along the palatal ceiling, depending on vocal or pitch, it must always have Mouran's support at this point (Figure 2). The maximum exploitation of this area of the palace, brings harmonics in the spectrum of all the vowels, having an activating role that brings penetration to the voice and projects it over the orchestra.

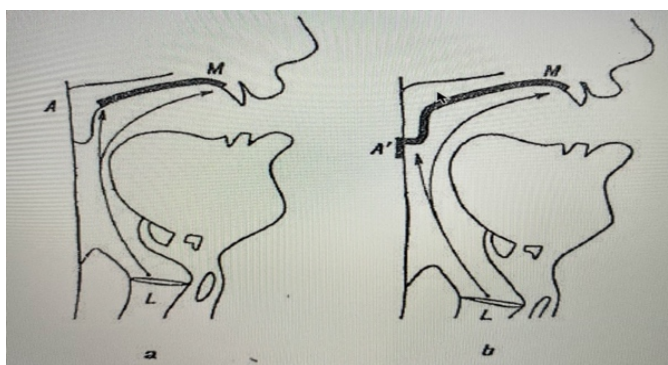


Fig.2. *The main activating palatal area and its evolution according to frequency. A and A', With constant support on Mouran's point, signified by the letter M;* (Husson 1968,106)

The lips are the last stage of our vocal apparatus, the last resonant section through which our sound passes in order to be projected, in the end, to the outside. They can delay the sound or let it escape more, they can offer dark or light colors, and of course they make a great contribution to the pronunciation and articulation of words. Lips are the final stage that must draw our attention in the preparation of our vocal apparatus, but they must not be trained before acquiring the other elements and stages already listed above.

## 2. The appropriation of the necessary technique in singing performance

First of all, it must develop a balanced resonance, where both the bass harmonics, those that provide warmth, the roundness of the sound, and the high ones, those that ensure the brightness of the sound, are strengthened by the action of resonators. This balanced resonance must be present throughout the scope of the voice. The equality thus developed is called the homogeneity of the voice, because it refers to its entire scope, by *unifying the registers* (Cîmpeanu 1975, 15).

If we want to be understood when we sing, and this is an undisputed desideratum, we cannot afford to confuse the colours of the vowels, although in lyrical art a certain resemblance between vowels is allowed, a certain uniformity of vowels. The uniformization of the vowels implies the maintenance of the timbre of the voice and the sound power through all the vowels.

The *sound coverage* comes in a certain passage of the voice, depending on the type of voice and each entity. Husson explains very clearly the phenomenon and how it is executed correctly: *The larynx during the emission of the last two or three open sounds is generally raised, while the pharynx narrows considerably, with the back of the base of the tongue back. During the sound coverage, the larynx descends, the back of the tongue is projected forward, the veil of the palate shows an increased uplift... the most significant phenomena are observed in the larynx: in addition to its descent, there is a forward and downward tilting of the thyroid cartilage, a more or less marked elongation of the vocal cords, a thinning of the ventricular slit; correlatively, the quasi-horizontal plane of the glottis tilts forward and downward* (Husson 1968, 55-56).

The vibrato is a very important feature of the voice, it can be defined as *a pulsation of tone, usually accompanied by synchronous pulsations of sound and timbre, of such magnitude and rhythm as to provide a pleasant flexibility, tenderness, and richness for tones* (Dromey 2003, 168). Regular and moderate



vibrato is seen as a characteristic of balanced and correct production, and the voice of the performer who is able to achieve this is perceived as more beautiful. Sundberg claimed in the Illinois University Press that *regularity, which describes the similarity between the rate and extent of each undulation, is particularly important as a measure of a singer's vocal skills: the more regular the undulations, the more skilled the singer* (Sundberg 1987, 39).

Within the limits of normality, the vibrato must be constant and as natural as possible, it appears without being aware, developing more or less on its own, as the vocal training continues successfully. However, a defective, unstable and unsightly hearing vibrato can be changed by technique and a lot of training. The different vocal musical styles used in musical theatre sometimes require conscious control and even suppression of the vibrato too wide, reaching even straight and relatively open sounds.

### 3. Conclusions

The technique required for singing performance can be identified by a complete set of all the elements announced above, a set of *systematized directives, of various natures, the progressive realization of which by any healthy subject, must gradually lead to the formation of a determined vocal techniques, i.e. to allow him some established performances of pitch, intensity, timbre and tirelessness* (Husson 1968, 185). Having control over the vocal ensemble, of course, makes it ease in adding all the other components that a lyrical artist of the highest level must complete.

Nowadays, the lyrical artist faces a series of difficulties, which can have negative repercussions on his vocal and implicitly artistic performance, forcing him to force his voice to be heard better, which can be helped if the artist acquires the technique needed to succeed in projecting the voice over the orchestra.

In addition, a current and very common problem of singers is *polyglotism* (Piso 2000, 29), the obligation to sing everything, in different styles and different languages, being the elements that contribute the most to affect the voice over time. All this, along with international life full of travel, temperature changes and many other factors, can be supported by proper vocal hygiene, exercise and proper technique.

A well-educated artist and as complete as possible in terms of technique, and not only, *can satisfy the imperative requirement of creating an artist capable of consciously, analytically, any kind of sound, interpretive expression of any psychic*

*subtleties. Only by being able to do anything from a technical point of view, the artist will be able to achieve what is necessary from an aesthetic point of view and this without endangering in any way the integrity of the phonatory* (Husson 1968, 19).

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<https://anatomie.romedic.ro/laringele> (Fig.1)