THE ART OF GREAT SINGING:

A Technical Guide to Vocal Production

Volume I

Seven Essays on the Fundamental Building Blocks of Vocal Technique

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Volume 1

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Moving the Mind

Memory Location

If someone pulls the hair on your head, ***your mind immediately goes to that spot.*** You will be very aware that someone is pulling the hair on your head (…if you have any hair. Some of us do not!). If someone suddenly steps on your toe, ***your mind moves instantly to your toe***. This mental process of identifying specific locations in the body is common to all of us. We can use this ability to guide and organize the mind/body connection for singing. The ability to repeat the thought or memory of an activity in the body can guarantee the accuracy of a predetermined location or function.

We Call It Talent

The ability to move the mind from one location to another in the body is a mental activity, and, in some cases, an extraordinary talent. It can be organized to function as an instigator, triggering a coordinated, complicated process into a preconceived, predictable, conceptual process. The mind/body connection must be correct, powerful, relentless and reliable. Great athletes have this ability, and there is a definite athleticism required in singing. The flexible, agile, instigating thought, based on desire or mental conception, once it has been sufficiently practiced and 'programmed' into the psychomotor system, can be repeated at will. This conceptual process can consistently produce a predictable physical result, and it has a name: ***The Moveable Mind.***

A Precious Gift

The mind can move effortlessly from one location in the body to another, simply by thinking specific thoughts. The mind doesn't always need to specify location, but it is a precious gift to be able to choose exactly the desired point of activity. Great singers have often described the mental approach to voice production as the ability to 'move the mind to an area where the inhalation for singing occurs' or to 'lean the pressure of the breath against the chest while singing.' Zinka Milanov put her hand on her chest and said … "Put the breath on the voice and sing." All we have to do as singers is identify what she meant by 'voice.' Did she think her chest was her voice? That was what she indicated to the listeners, and that is what we saw her doing when she sang. So, all we have to do is 'put the breath on the chest' and we will be able to sing the way she sang!

'Pointing' with the Mind

We know the mind is moveable, to wherever there might be physical action, a planned physical action, a memory of a physical action, or even the threat of a physical action. The mind moves as a mental response to pleasure or pain, or out of curiosity, or to gauge distance. It is possible to direct or 'point' the mind to a specific location on the chest and 'lean' (press) the breath there. A biomechanical action can be directed in such a way that it will initiate a predetermined, coordinated response. The result will be to influence and organize an active response within the limits of the chosen location.

General or Dispersed Response

The mind will respond to general sensations, also. A gentle breeze against the skin can be very pleasant, just as the general sensation of a hot bath or a cold shower can be exactly what we desire at times. In such a case, the mind will lose focus, and a general awareness of sensations will be dispersed over the area of the entire body.

However, singers need to be able to concentrate the mind in a specific direction, toward a specific location, that will organize the rest of the body to fulfill the criteria of the activity of beautiful, free singing.
In order for the singer to repeatedly execute the particular mind/body connection and coordination that we call artistic singing, negative influences, either emotional or physical, must not be allowed to invade the mind. Conflicting physical, mental, or emotional concerns may disperse the mental focus away from singing and disrupt the coordinated process needed to produce the voice. Emotional or intellectual conflict must be avoided as much as possible.

Advice Comes in Various Forms

There is a great deal of advice available to young singers, some of it very valuable and important, some of it merely worthless and harmless, and some of it destructive. Unfortunately, too much of it is destructive and must be identified and avoided completely. Giovanni Battista Lamperti (1839-1910) said: "…one word can destroy a singer." The singer must be able to discern which advice is good, and which can be ruinous to the voice and career.
The best and safest advice usually has to do with common, every day things: Don't drink hot or cold drinks immediately before singing (it might move the mind to the mouth and throat); eat several hours before a performance (eating too close to performance time may move the mind to the mouth and/or stomach, or it can inhibit the function of the diaphragm while breathing); showers and baths should be taken in the morning and not close to performance time. A massage, so beneficial if received the day before or after a performance, may disperse the concentration required in order to sing well; spicy foods and alcohol should be avoided before and during a performance (the mind will be moved to the mouth and the tongue), an so on.

If we analyze this advice, we begin to recognize that older, more experienced singers often advise younger singers to avoid activities that can either disperse their concentration or move their minds to locations that are not beneficial for singing.
Listening to one's own voice while singing can have a disconcerting effect on the concentration necessary for the total commitment and mental organization needed during performances. Allowing one's attention to be drawn to the ears, and to the analytical and listening/receiving part of the mind instead of the giving part of the mind, especially if there is self-criticism or any form of emotional response to listening, may cause a mental distraction that can disrupt the mindset needed for great singing. It is advisable to avoid listening to one's own recordings until a year has passed, to prevent the inevitable emotional reactions that evaluation and judgment cause. It should be remembered: The greatest singers in history did not have the possibility to record themselves during their developmental years. Caruso was 29 when he heard himself on a recording the first time. Adelina Patti was 63, and her response was charming. She said, as the recording began to play, and she heard herself for the very first time in her life, "Ah! Now I know why I am Patti!"

A Directed Path

Many actions we commit every day require a movement of the mind. For instance, before reaching for a doorknob, a specific thought occurs. In this case, a desire to go outside activates a 'pointer' in the mind, which leads the way for us to establish a 'directed path of action'. Consequently, the mind will send a signal to the psychomotor system to instruct the arm and hand to move toward the doorknob and turn it. The psychomotor system responds and the 'pointer' is activated, not only at the moment of action, but an instant before the action begins, in many cases without planned, cognitive stimulation. This power of anticipation, which can be used to direct and control the mental and physical organization required for singing, is the psychological mechanism that can provide the

solution to the 'vocal puzzle' that singers must solve in order to sing professionally.
Consciously moving the mind to a specific area of the body to establish **the inhalation method,** and, sequentially, **the support ('leaning') method**, is the mental approach recommended by the greatest singers in history. The ability to isolate, remember, repeat, 'program' and apply the mind movements (the thoughts, commands, or ideas) great singers have used with success in the past, allows us, if we study, learn, and practice what they have advised, to master the same mental/physical concepts and actions they used to achieve the highest level of vocal artistry in history. Other than a few phenomenal, 'natural' singers, all of the great singers were taught by a teacher, who was able to establish the most efficient 'movements of their minds', that made them sing the way they did. This mental method has been used throughout the history of singing as a technique for identifying the *placement of the breath when inhaling* and the *placement of the 'point of leaning' of the breath(the 'appoggio') while singing*.

Deleterious Effects of Wrong Ideas

The 'rub', of course, is that **we must think the correct things** in order to achieve the correct results. Buddha said, "…Right thinking, right doing, right being." The fabulous ability of the mind to move with deliberation to a specific 'place' or 'spot' can have deleterious effects on the voice if the mental commands are **wrong**. Modern teachers urge the singers to 'move the mind' into the nose by asking for 'focus.' The psychomotor response to this request is invariably the narrowing the Pillars of the Fauces in order to accomplish a nasal, artificially concentrated sound. We know that such a command is in direct conflict with Enrico Caruso's command to: **"***Never sing into the nasal cavity. It is against all the rules* **of** *song.***"** Therefore, we must learn to move the mind to those specific locations, recommended by the greatest singers in history, which are beneficial to the Art of Singing. We want to practice the organic methods of

breathing and control of the breath that promote stamina, vocal longevity, range, volume, and beauty of tone.

The 'Point of Leaning'

The 'point of leaning' (the 'punto d'appoggio'), and the more general term, 'appoggio' ('leaning'), were defined and described in the past by great singers and teachers, as "the pressure of the breath against the chest (or sternum) while singing." This 'support technique' has proven to be the most successful example of the mental approach to breath control ever discovered and applied in the entire history of singing. It is described very clearly in the books of the greatest singers: Enrico Caruso, Luisa Tetrazzini, and Lilli Lehmann, and by great voice teachers: Giovanni Battista Lamperti, Manuel Garcia II, Mathilde Marchesi, and Blanche Marchesi.

The Inhalation

The first movement of the mind as described by the above mentioned singers dictates the location of the 'place' (target) for the activity of the ***inhalation***. When I asked Giovanni Martinelli what he taught his students, he answered, "il posto, il posto, il posto!" (the place, the place, the place). As he said this, he pointed at the middle of his chest.

According to the recommendations written in the books of the greatest singers in history, the inhalation is directed by the mind to settle ***deep into the lower back***. Luisa Tetrazzini said, "…The first drop of inhaled air should go into the lower rear quadrant of the lungs." It is possible to follow her instructions by 'moving the mind.' One needs only to ***think*** of the exact spot where the activity of the inhalation should take place ("…the lower rear quadrant of the lungs") and draw the breath silently through the nostrils (Tetrazzini said, "…like smelling a flower") down to that location. We can understand Tetrazzini's advice well enough to know that she wants us to inhale into our lower backs before we sing. The singer can choose the tip of the tailbone as a target for the inhalation (as recommended

by Jerome Hines and Robert Merrill), move the mind there, and breathe in silently through the nose with energy and determination while maintaining the thought of the 'target of the inhalation'.
Another way of telling the mind the exact location for the inhalation is to imagine that "…the buttocks are balloons and must be filled with breath before singing any sound…" This advice was given to me by the Danish tenor, Helge Roswaenge, who was one of the greatest singers in history and an advanced Yoga practitioner. The direction and target he chose for 'moving the mind' while inhaling was very clear! Joan Sutherland shocked a group of young singers when she responded to a question about her breathing method by saying, "…I breathe up my rectum." This is another example of 'moving the mind' to a specific location before singing!

Elongation of the Spine

The preceding ideas and the following idea may seem a little odd, but they are very efficient variants of a mental approach used and recommended by the greatest singers in history.
The 'elongation of the lower spine' was a concept that helped to prevent *curving the lower back extremely forward* while 'leaning' ('pressing') the breath, from the lower ribs in the back to the area of the center of the chest. The most successful singers, who were willing to discuss their breathing and support techniques, especially those I met in Europe, generally followed the rules of inhaling the breath into the lower back while drawing the abdomen inward. However, some of them added an extra downward movement in their lower backs. While inhaling, the lower spine was *elongated downward* which *caused the pelvis to tip under and forward*, thereby preventing the noticeable tendency of certain singers to appear to be arching their backs extremely while singing. The *'sway-back'* posture, although not necessarily wrong in terms of the diaphragmatic function that controls the emission of the breath for singing, looked bizarre in some cases, especially among male singers. Elongating the lower spine while inhaling developed into a successful concept for helping to 'place' the breath into the lower back while

preventing the tendency to 'sway' the back while singing. A separate action of elongating the lower spine will not be necessary to expand the lower ribs in the back if the breath is drawn into the lower back silently through the nose and ***with sufficient strength***. Elongation of the spine is not detrimental to the 'bellows', and can actually help some singers, just as drawing the abdomen inward while inhaling can assist the lower ribs in the back to open extremely, by causing the inhalation to go down even deeper into the 'lower rear quadrant of the lungs.' Enrico Caruso, who said that 'massive respiration' was required 'for great singing', explained his breathing method very clearly: "…The lower ribs in the back work like a **bellows**. They ***open when inhaling*** and ***squeeze together when singing***." He did not mention 'elongation of the lower spine'. Maybe he didn't need it!

Nothing Moves Unless the Breath Moves It

One important rule that should be scrupulously observed is as follows: ***The ribs should not move unless the impetus of the inhalation moves them***. George London would point at the lower back of the young singers and say, "…Make the singers work the 'machine' (the lower back) when they breathe, both inhaling and exhaling. And remember, **nothing should move back there unless the breathing moves it."** According to him, even the elongation of the spine should be coordinated with the inhalation and not move independently. He went on to explain that powerful respiration should be the only source of energy that causes movement of any part of the vocal tract. That includes the lower back, the throat, the back of the tongue, and the larynx. The entire area of the throat, and especially the back of the tongue, must be kept soft and relaxed, without any flexing of the muscles in the throat, the jaw, the tongue and the neck. The back of the tongue and the larynx descend only as far as the strength of the inhalation can lower them. The larynx must never be depressed downward independently by muscular action. It should descend only as a **response** to the strength of the inhalation.
The **front of the tongue** must remain in contact with the lower lip from corner to corner while the **back of the tongue** descends with

the inhalation. However, nothing should move independently if the strength of the inhalation is not sufficient to move it. Singers should wait until the strength of the inhalation is developed to expect any important vocal results. This explains Enrico Caruso's observation that "…Massive respiration is ***required*** for great singing."

The Open Throat

The open throat is a very misunderstood and dangerous concept. How to achieve it correctly was explained by the by the greatest singer of them all, when, after describing his method of inhaling and controlling the breath, he added that "…***massive respiration*** is required for great singing". He also explained how to keep the throat open while singing. "…The open throat is maintained by ***the power of the respiration***." These are the words of Enrico Caruso.
The throat is never to be opened by muscular action, such as yawning or raising the soft palate independently, or by spreading the upper pharynx or the lower pharynx. Although the ***mouth*** in the Italian School is open horizontally, with the corners of the mouth always pulled back (the gentle smile), even on 'oo', the ***throat*** is to be opened only ***vertically*** and only by the power of the inhalation. The 'open throat' refers specifically to the opening action of the epiglottis during the 'massive respiration' described above. It should be 'breathed' open. That can only be accomplished by deeply inhaling into the lower back. Any action in the throat that is not a direct result of the 'power of the respiration' is wrong and can cause tension and spreading of the upper and lower pharynx. Muscular action in the throat (yawning, raising the soft palate in any direction but up and forward, 'covering', 'hooking') can easily be misidentified as 'opening the throat' by those who have never based their singing on correct respiration. Sadly, they insist on giving bad advice to vulnerable young singers, recommending muscular actions in their throats to achieve that which only deep breathing can accomplish. It should be stated here very clearly. Young singers who take bad advice will never have singing careers. Robert Merrill said, when asked to describe the most important thing a singer needs in order to make a big career**:**

"…*You have to have the talent or intelligence to know what is good for you and to avoid bad advice. Everyone thinks he or she is a genius and will give you advice. You must be able to distinguish between good advice and bad advice or you will not survive as a singer.***"**

The Invisible Throat

Dame Eva Tuner described the entire area of the body above the center of the chest as being "invisible" while breathing and singing. No tension of any form was allowed in the throat, the jaw, the tongue, the neck, or the shoulders. Everything to be physically accomplished in singing was strictly *reactive* to powerful breathing, including the opening of the epiglottis, the lowering of the larynx and the back of the tongue, and the elevation of the soft palate up and forward. The vertical opening of the vocal tract was the result of *extreme inhaling into the lower back*. Even the horizontal opening of the mouth (**the smiling mouth**) was created by gently smiling in coordination with deep inhalation. As soon as the lungs were full, "…from

the bottom to the top…" (Tetrazzini), the breath was "…pressed against the sternum". The 'appoggio' (the pressing of the breath against the chest), prevented the collapse of the open throat and maintained the open epiglottis. The vibrations of the voice passed upward through the throat and into the head. Giuseppe De Luca was quoted by Robert Merrill as having said, "We sing **through** the throat from the diaphragm and not **with** the throat or **from** the throat."

Lilli Lehmann describes the path of the voice as beginning with the vibrations produced by the vocal folds. The disturbance of the air, the sound of he voice, travels upward through the open epiglottis, through the lower and upper pharynx, **over the soft palate** (which has moved **up and forward** and out of the way of the path of the voice as an **opposite and equal reaction to the deep inhalation into the lower back**), **over** the hard palate, and into the **upper half**

of the front of the skull (the True Mask). Resonance in the nasal cavity or in the ***lower half*** of the face was strictly avoided.

Trust and Recommendations

I was the only voice teacher George London would recommend to singers. Jerome Hines, Richard Bonynge, Joan Sutherland, and Toscanini's assistant, Dick Marzollo, felt the same way. I'm convinced the reason they trusted me was because I taught the same breathing and support techniques they had learned and observed during the years of their own vocal training, and, in the cases of Bonynge and Marzollo, from exposure to great singers. Richard Bonynge trusted me for another reason, also. After open auditions for MIGNON by Thomas, he hired ten of my students (the entire cast required eleven singers) for his performances in Vancouver, B.C. As soon as he found out that the singers he liked best were all my students, he invited me to attend the rehearsals. I spent six weeks in Vancouver, vocalizing the singers and explaining my approach to vocal technique. The only member of the cast who was not my student refused to have anything to do with me. He was the only member of the cast to receive bad reviews! The rest of the cast received rave reviews! Sutherland and Bonynge could have sent their best friend, mezzo-soprano Huguette Tourengeau, to any teacher in the world. They chose to send her to me. She quickly understood the breathing method I taught her, and had great success performing with this technique all over the world for years.

Support ('*L'appoggio*' or 'The *Lean*')

The next important movement of the mind in our sequence of thought commands is to 'place' or 'lean' the 'massive respiration' (Caruso) that has filled the lungs during the deep inhalation into the lower back, ***against the chest***. The massive respiration required for great singing" (Caruso), which fills the lungs "from bottom to top" (Tetrazzini), must be controlled by "***pressing the breath against the chest***" (Mattia Battistini, Lilli Lehmann, and Tetrazzini). This process

is called 'appoggio' in Italian ('leaning' or the 'lean'). Moving the mind to the ***center of the chest*** and 'leaning' ('pressing') the breath there will cause the ribs in the lower back to close (Caruso said "squeeze together"). They will create sufficient breath pressure against the chest to insure that the slender emission necessary to create the singing voice is predictable and uninterrupted (legato). Franco Corelli called this continuous pressure the 'portamento' (carrying). He 'carried' the tone from one to the next by continuing the pressure of the breath during an uninterrupted emission. The exact location of the 'appoggio' can be 'il punto d'appoggio' (the 'point of leaning'), placed ('leaned' or 'pressed') ***exactly against the center of the sternum*** (Luisa Tetrazzini's recommendation), or against the ***general area of the chest*** (Lilli Lehmann and Mattia Battistini), or ***against the lower chest*** (Pavarotti, Paul Schoeffler, Gottlieb Frick), or ***leaned against the chest at a forward and downward angle*** (Caruso, Roswaenge, Richard Tucker, and Eleonor Steber).

The secret of a successful support technique is to clearly move the mind to the chest and maintain the 'pressure of the breath' (the 'appoggio') at all times while singing. Caruso said to "…raise the chest and pull in the abdomen while inhaling, and do a ***contrary motion*** while singing." This is another way of thinking about where to place the 'lean'.

Close observation of the silent film of Caruso actually singing does not reveal the slightest movement of his chest while he is inhaling or singing. His chest does not visibly move, remaining in a fixed position, even during the most dramatic moments of 'vesti la giubba' from Leoncavallo's PAGLIACCI. We will discuss the constant position of the chest, called the 'sternal arch', shortly.

Never Show the Work

It is important to understand what singers mean when they give advice. Remember that the advice they give us usually applies to what is happening ***inside the body.*** Activity, even described activity, is not always visible to the observer. One of the oldest dictums in

the history of theater is 'Never show the work'. The best singer I ever saw at 'hiding the work' was Zinka Milanov. It was impossible to identify any movement in her body unless the observer could somehow stand behind her while she sang. Her lower ribs in the back moved apart when she inhaled and closed together when she sang. Except for the position of the hand against the center of her chest, and the posture of the chest as a constantly maintained 'sternal arch', her singing was 'invisible'. The pressure of the breath against her chest had to be identified by considering the advice she gave to young singers, and by observing where the activity of the body was taking place when she sang. We knew she was 'putting the breath on the voice (the chest)' because she told us so, and she often sang with her hand pressed against her chest. She also leaned forward with her chest thrust outward and with her head facing upward toward the upper balconies. We have no reason to doubt that she was thinking exactly what she had told us she was thinking while she sang. One thing is certain. She was the best singer, the physically calmest, stillest singer, with the greatest breath control, I ever heard in my life, and that would include Dame Joan Sutherland, Jussi Bjoerling, Birgit Nilsson, Richard Tucker, Helge Roswaenge, and Lauritz Melchior, to name a few of the greatest ones.

Degree of Angle

A singer must ask himself/herself the following questions: What degree of angle shall I employ while inhaling, relative to the vertical, and toward what target shall I direct the angle of the inhalation?
What degree of angle shall I employ for 'leaning' the breath while singing (relative to the vertical), in order to **exploit the space behind my 'sternal arch'**? If I thrust my chest outward while inhaling into my lower back, with my abdomen simultaneously moving inward, at what angle (relative to vertical) do I 'lean' the breath while singing?

The Sternal Arch

If a singer notices that the chest is sinking while singing and rising with each inhalation, it means that the 'fixed position in space' of the chest, which should be thrust forward and slightly upward and totally without movement while singing, has not been perfectly established. The position often recommended by some of the older singers and teachers in Europe is called the '**sternal arch'**.

It is important to make clear the difference between the 'depression' at the base of the throat, at the junction of the interior ends of the clavicles, called the 'sternal **notch**', and the 'sternal **arch**', centered in the middle of the sternum and shaped horizontally and vertically into an outward arch by lifting the sternum outward and slightly upward using the back muscles. The 'notch' is used as a phonation base (the vowels are formed there) and a 'point of leaning' by some singers. Although it is a functional choice of '*appoggio*' in terms of producing great sounds, used very successfully by Mario Del Monaco, Franco Corelli, and George London, it creates the most dangerous of all 'points of breath pressure' ('leans'). If the pressure of the breath suddenly releases against the vocal folds, there is no time to recover before the pressure has done its damage. The damage, unfortunately, is usually severe.

The exaggerated, outward and forward ***arching of the sternum*** is a method for stretching the front of the diaphragm as part of the basis of diaphragmatic breath control. The front of the diaphragm should ideally be stretched at all times while singing. The sternum should be arched ***both vertically and horizontally***. Information gleaned from over fifty years of observations and question and answer sessions with great singers has taught me that singers who sing the Grand Operas of the Italian repertoire never 'lean' the breath **vertically**. 'Leans', which always imply that 'pressure' of the breath against some part of the chest is the basis of the control of the emission of the voice, are **horizontal** or **diagonal**, and they happen on the **inside of the body**. They are usually not visible from the outside, because the **open chest cavity provided by the 'sternal arch'** provides plenty of space inside the body for the various 'angles of lean' to function

unseen. '*Appoggio*' is created and maintained by breath pressure against the chest while singing. The 'sternal arch,' against which the breath is 'pressed', is created by **posturing**. The breath, which provides the pressure against the chest (the 'appoggio') is sent from the lower back against either the lower chest (Pavarotti, Frederick Dahlberg) using a **shallow diagonal angle of 'lean'**, or at a **steeper diagonal angle of 'lean'** from the lower back to the center of the **arched chest** (Jussi Bjoerling, Zinka Milanov, Giovanni Martinelli), or by applying the **steepest angle of 'lean'** (and **most dangerous** if the breath, which is under pressure, 'slips' and releases against the throat), from the tip of the tailbone to the 'sternal **notch**' at the base of the throat (Franco Corelli, Mario Del Monaco, George London and Gerhard Huesch).

A Vertical Angle of '*Appoggio*'

Any steeper angle of 'lean' than those described above becomes a vertical 'lean', and is not recommended for singers of the Italian repertoire because of the Third Law of Motion (**'Every action has an opposite and equal reaction'**.). 'Appoggio,' as a method of support in the Italian School of Singing, is always based on 'the pressure of the breath' against the chest as a breath control method. However, there is a kind of successful support system that is not based on the 'pressure of the breath'. Rather, it is based on the **lack** of **'**pressure of the breath'. It is possible to use a vertical 'lean' successfully if the 'pressure of the breath' is removed from the equation and '**dropping**' or '**relaxing the breath downward'** into the deepest part of the body becomes the key concept.

We have tried to describe the 'ladder leaned against the wall' and 'the weight of the breath falling into the lowest part of the lungs during the inhalation,' as suggested by Tetrazzini. These ideas may sound benign, but, once the breath has been leaned against the chest, some systematic method must be activated to sustain its placement. We have discussed how the mind moves to specific locations to perform specific actions. The greatest Italian vocal method in history, as described by Caruso, Tetrazzini, Mattia Battistini, Giuseppe De Luca,

and Zinka Milanov, was based on **maintaining the pressure of the breath against the chest at all times**.
In Martial Arts, using muscles and effort to accomplish something is called '**hard style'**. The term '**Soft style'** is used to describe movements and responses that are based on the energy provided by **gravity** and not by muscles. The difference can be illustrated as follows: **Throw (the hard style)** a stone straight down off a bridge or **drop (the soft style)** a stone straight down off a bridge into a deep ravine. Both stones will have energy when they arrive at the bottom of the ravine. The question is, why throw the stone when dropping it will achieve the same result? It boils down to the reason for throwing the stone instead of just dropping it, and what is the desired effect when it reaches bottom. If dropping it and depending on gravity are sufficient to the task at hand, why expend energy throwing it?

The Inadequacy of Words

Words are very important in the way we communicate ideas, but words cannot explain everything. If they could, singers would learn to sing by reading books. All we can do is use information written in books or passed

down to us as quotes by great singers to let us know if we are on the right path or not. Caruso said, at the beginning of his book, "…I have my own way of singing, but I will try to give a few pointers."

The Only Successful Vertical Lean

'Dropping the breath' is the only **vertical lean** that has been successful in the history of singing. It has not been a successful 'support method' for singing the Grand Operas of the Italian repertoire. Tito Schipa said that he used a 'dropping method' when he sang (the 'sighing technique'), but his 'angle of lean' was directed against the chest and was not vertical. The very lack of activity in the vertical breathing method has limited its efficacy to roles written

by Richard Wagner for powerful female voices. TURANDOT by Puccini could be included with the Wagner roles, because of the particular demands of that role. While being an ideal vocal method for most of Wagner's music, doing a 'dead drop' of the breath into the pelvic area while singing is not ideal for fulfilling the demands of Italian composers. Although some of the requirements for singers are the same in Wagner's music and Verdi's music, there are differences that require more diaphragmatic action in the vocal writing of the latter's music. For instance, Verdi demands more coloratura, staccati, martellati, sforzandi, crescendi and decrescendi, and sustained, exposed, high pianissimo effects. However, his sopranos must also fulfill the vocal demands that are similar to those made on Wagner's heroines; Volume, sustaining ability, powerful declamation, incredible stamina, lyrical amplitude in the middle range of the voice, perfect diction, erotic expression, etc. In order to be able to fulfill the vocal demands of the Italian composers, a way to sing had to be found to accomplish all of the effects mentioned above. **'**Throwing rocks' instead of just 'dropping' them became necessary because the targets became different and required varying degrees of intensity and accuracy of the 'breath stop'(Atemstauen). The breathing and support method known as 'appoggio' became the ideal solution to the problems presented by all composers, including Wagner. He was quoted as saying that he wanted "Bel Canto specialists" to sing his music. Richard Tucker said to me in 1962, "…Sing Verdi! Sing Verdi! If you can sing Verdi, you can sing anything!" He was right, and he proved it to an appreciative world.

'Every Action Has an Equal and Opposite Reaction'.

The key word here is 'equal'. If I **push** my breath **downward** into the body, I will feel a **push upward** of the breath in my throat. Therefore, since 'no action in the throat" is the first rule of the Bel Canto style of singing**, pushing** downward into the body is wrong because it causes **an upward pressure in the throat**. However, if I 'drop' my breath vertically while singing, as if it has weight, into the

pelvic floor, **relaxing** every muscle inside my body while maintaining the open chest cavity provided by the posture of the 'sternal arch', the opposite and equal reaction will be to **relax** every muscle in the area of the throat and neck. It is a support technique called the 'dead drop' method. It depends on **doing nothing** in the body while singing, based on **relaxation** and **stillness of the breath**. The voice 'floats' low in the body on a calm ocean of air, kept under control by **gravity**, **balance**, and **perfect stillness of the chest**. The result is a vocal expression that is benign and soft-throated, and as full as the size of the 'air-box' (the bigger the drum, the bigger the sound) of the individual singer can produce. The biggest voice I ever heard in the old Met was the voice of Paul Schoeffler, the great German 'Heldenbariton' (heroic baritone). When I asked him how he sang, he described a dual approach, depending on the role he was singing at the moment. I heard him sing the bass role of 'The Grand Inquisitor' in Verdi's DON CARLO. He explained that when he sang a bass role, especially a very low role like 'Sanrastro' in Mozart's MAGIC FLUTE, he used the 'dead drop' method. However, when he sang heroic baritone roles (Heldenbaritonpartien), like Wagner's 'FLYING DUTCHMAN' or 'Wotan' in DIE WALKUERE, he would "…press the breath against his chest".

A similar discussion took place in 1971 in Toronto with the famous concert contralto, Maureen Forrester. She was singing 'Fricka' in Wagner's DIE WALKUERE, a dramatic role for mezzo soprano, for the first time. Her performance was fantastic! Everyone was raving about it. She was definitely the best 'Fricka' I have ever heard. Her voice sounded completely different in a dramatic mezzo role from the contralto voice I had heard many times in concerts. As a matter of fact, she was the definitive Contralto on the concert circuit at that time. When I asked her about the differences between her usual contralto repertoire and such a dramatic, high mezzo role, she explained her technical approaches to the demands of the two vocal categories by explaining her use of the breath. The contralto music required a 'more relaxed, deeper, full-bodied use of the breath than the mezzo music. She demonstrated a complete 'dead drop' inhalation and said, "…See. If I need the wider, darker, voice to fulfill

the requirements of very low music, I breathe this way and do nothing inside my body." "However", she went on, "if I want to sing higher and more dramatically, with more metal in the voice, I breathe like this." She then demonstrated a perfect 'appoggio' technique by breathing into her lower back and 'leaning' against her chest. Both of her voices were gorgeous and full of power. She was the best I heard in both categories, and was the living example of how two completely different psychological approaches to voice production can be successful.

Thinking Makes It So

One of the most difficult concepts to explain, and one of the easiest to demonstrate, is that we can 'make ourselves heavier' simply by thinking. Again, we are touching on a very odd way to move the mind. A quote from Shakespeare's HAMLET has the hero saying, "…Nothing is good or bad, but thinking makes it so." By **thinking we are suddenly very heavy**, we can tap into a mysterious source of energy that is common to all 'soft style' systems of Martial Arts. Tai Chi and Aikido are both practiced in the U.S. and are perfectly functional as self-defense systems. Both can be lethal if applied by a Master of either Art. We need to understand the basis of the source of the incredible energy advanced practitioners of these 'soft-style' systems can demonstrate, and learn how to tap in to that same energy for singing.

When exploited in singing, the energy resulting from the 'soft style' approach can create more volume and intensity in the voice if the singer suddenly thinks that she or he wants to be 'heavier'. A good example of how to use this common but strange ability is to imagine that we don't want to be pushed aside (perhaps in the subway) or picked up off the floor. We have all resisted being lifted off the floor at some point in our lifetimes. If someone asks you to help them reach up and change a light bulb in the ceiling, you automatically make yourself 'lighter', in order to help the lifting. The desire to become as light as a feather is a basic requirement of ballerinas, who make themselves as light as possible when lifted repeatedly by their

male partners. However, if you do not want to be lifted off the floor to change the light bulb, you resist the efforts of your friend by making yourself 'heavier'.

As an exercise, try lifting a friend off the floor. Have him or her stand up straight without bending the knees (The lifter may bend the knees. The 'liftee' may not). During the first lift, the person being lifted should try to help achieve as much height as possible by reaching upward to touch the ceiling (or to change a light bulb). On the second lift, the person being lifted, still with unbent knees, must **resist** being picked up without changing any aspect of the posture of the body. The only resistance should be mental. The 'liftee' must definitely **not** want to be picked up off the floor. The 'lifter' will immediately feel that the 'liftee' has suddenly taken on a lot of weight and is suddenly dramatically heavier.

This mentally instigated phenomenon of **becoming heavier by simply thinking** is the basis of certain techniques in nearly all of the various styles of the Martial Arts. It is a thoroughly exploited and highly developed technique, the actual basis around which all fighting movements are developed, in so-called 'soft-style' (gravity based) Martial Arts. 'Aikido' (Japanese) and 'Tai-Chi' (Chinese) are probably the most famous 'soft style' fighting systems. These systems are known to be deadly and the practitioners never experience fatigue. No one knows what causes this energy to release the way it does, by simply thinking, but the Martial Arts systems of Eastern Asia have been exploiting this phenomenon for centuries.

This phenomenon of energy, the ability to 'drop' the breath into the lowest reach of the pelvic floor and sing without any sign of fatigue in operas that are four and five hours long, without any kind of active 'lean', is most often observed in obese or pregnant singers. They do not agitate or 'press' the breath against the diaphragm. Of course, use of vertical pressure would react against the larynx and disrupt the even vibrations of the vocal folds. 'Dropping' the breath heavily into the pelvis creates enough energy to meet the vocal demands of a lot of vocal music if no extreme vocal gymnastics are required.

Tito Schipa's 'sighing method' worked for him, although his 'gravity lean' was diagonal, because the reaction in his throat was benign. He was limited to singing very light, lyric music, which was correct for his voice. The demands for volume and declamation in dramatic music were not expected of him. He very cleverly sang only the roles that suited his light voice and his gentle, passive 'lean' of the breath.
A true 'dropping technique' can be a wonderful vocal technique if all the singer has to do in stand in one place and deliver huge tones. The singing is usually full of power and color because the 'letting go' of the breath downward as a vertical, relaxed, feeling of weight in the lower body lengthens and broadens the air column (the bigger the amount of air in the drum, the bigger and richer the sound), and causes no stiffening reaction in the throat. It must be made clear that when I advise **against** a vertical 'lean', I mean that no degree of **pushing downward** can be allowed. A dropping relaxation of the inside of the body is not really 'appoggio'. Actually pressing downward with energy and effort into the pelvic area, as if trying to move recalcitrant bowels, could be called an 'active' or 'hard style' vertical lean. However, the reaction to the vertical angle of such a 'lean' causes paralyzing pressure against the throat. The 'dead-drop' of the breath into the deepest point of the pelvis floor, using no downward pressure, could be called a 'soft style vertical lean'. Personally, I prefer to distinguish the word 'lean' ('appoggio) by implying a pressure of the breath against the diaphragm whenever 'lean' is used. The word 'appoggio', as used in singer parlance in Europe, means that **the active pressure of the breath against the diaphragm** is being applied in a way and in a place that **does not cause a reaction in the throat,** but does the opposite. It guarantees that, by deliberately creating pressure ('hard-styling') against the chest, the throat remains free.
'Dropping the breath' into the pelvis is not active in the sense that it is 'pressed' downward. It is a passive technique that leaves the non-reactive throat in a totally soft, relaxed state. When asked by George London how she supported her huge voice, Kirsten Flagstad described her breathing and support method as feeling in her lower body like she did when she was very pregnant. Everything was

dropped and the abdomen was allowed to hang downward and outward while singing. Her breathing method was passive, using only the capacity created by relaxing everything downward. Her only action was to maintain a still, high chest while singing and breathing. London has discussed vocal technique with her in detail, as had Lauritz Melchior, and, when I asked about her vocal approach, passed on what he had heard from her to me.

Of course, I asked him about many of the singers with whom he sang, and he had opinions of every one of them. His favorite vocal technicians were Zinka Milanov and Richard Tucker. Jerome Hines agreed. Hines considered Milanov the greatest singer he heard in fifty years of singing at the Metropolitan Opera Company. Aside from her incredible voice, she was also the most dependable singer he ever heard. Milanov maintained a level of performance that has been equaled by only a few singers in history. She never had a bad performance. Every performance was steady, reliable, phenomenal, and an example for everyone of how to sing.

Tucker was the other singer who was admired by his colleagues as the ultimate operatic tenor. He could sing a wide repertoire and maintain the highest standard in every performance.

Flagstad, according to London, was in a category by herself because there was no one like her. She, like Caruso, Ponselle, and Titta Ruffo, could not be compared to other singers. Her voice was so tremendous that he could not find words to describe it. He tried to remember everything she had told him about her concept of voice production. As great as she was, she had limitations in terms of what she could or could not sing. In spite of her phenomenal, lustrous voice of gigantic proportions, her extraordinary 'dropping technique' did not provide her with the ability to fulfill the criteria of the great Italian operatic roles. On the other hand, Zinka Milanov, the very best Verdi soprano in the world during her era, who could sing anything without apparent effort, refused to sing any Wagner role. Her 'appoggio' technique, placed against the middle of her chest, which produced a huge voice with golden, metallic glow and ultimate ease, was not the ultimate vocal technique for the long, sustained roles of 'Isolde' or 'Bruennhilde' and she knew it. Although she

received offers to sing those roles, she refused to perform them. She also turned down Puccini's 'Turandot'. No one could understand why these two ladies, absolutely the greatest sopranos in the world during their time on the scene, refused to attempt to expand their repertoires into each other's vocal categories. The reason was obvious to those singers who have heard or performed both vocal 'styles'. Flagstad turned down offers to sing the great "Prima Donna" roles in the Italian repertoire on many occasions. The 'dropping' method is limited in its ability to allow the singer to create special 'effects' (vocal gymnastics), like staccati, sforzandi, high pianissimi, martellati, fast coloratura singing, etc. Flagstad, in possession of one of the greatest voices in history, did not attempt to make the vocal effects required in the Italian repertoire. She was satisfied to be the best in the world at what she did, and her level of performance granted her a position among the greatest singers in history.

An Exception to the Rule

Jon Vickers was the only successful singer I have known who had a great career by pretending to move his bowels while singing. I know for a fact that he supported with this concept because I asked him in Mexico City in 1962, during a run of performances of Verdi's AIDA. He explained it very carefully. He opened his throat in the biggest yawn possible and pressed down like he was constipated and trying to move his bowels.

His middle voice was huge and gorgeous. His high notes did not project over the orchestra well, and certainly not like those of Mario Del Monaco, Richard Tucker, or Franco Corelli, Lauritz Melchior, or the most powerful tenor I ever heard, Helge Roswaenge. Vickers produced a middle range that was very powerful and just right for certain roles. His 'Siegmund' in Wagner's DIE WALKUERE and 'Tristan' in Wagner's TRISTAN UND ISOLDE were excellent. The extreme **reactive** pressure against his larynx, caused by pushing downward while singing, affected his high notes negatively, and made the resonance fall back and away from the Mask.

Vickers was a lumberjack in his youth and had the physical strength of ten men. He was able to produce huge tones in his middle voice, and the color of the voice was magnificent, in spite of the enormous efforts demanded to neutralize the vertical pressures against his larynx. Extraordinary physical strength, superior to any professional singer I have known, was not sufficient to overcome the reactions in his throat on his high notes. Although he could reach the highest notes in his repertoire through sheer effort and muscle, they did not ring or project like his massive notes in the middle range of his voice. Any pressured type 'lean' that utilizes a purely vertical angle of support while singing should be avoided. These include 'moving the bowels' or pushing down as if constipated, 'giving birth', 'lifting a heavy weight', and 'vomiting', or imitating the 'dry heaves'(retching). All of these are based on vertical 'leans' and cause reactions in the throat that drastically inhibit the vibrations of the vocal folds.

A Great Tradition

We know Enrico Caruso learned to sing as part of a great vocal tradition that was based on a general breathing and support system that was taught in different parts of Europe at that time. He describes it very clearly in his book. While singing, the mind commands (moves and sustains the thought) the pressure of the breath to 'lean' against the sternum (or lower chest) and stay there while singing. This is accomplished by allowing the ribs in the lower back to close reactively. Caruso said the ribs in the back "…work like a bellows. They open when the breath is drawn in, and squeeze together while singing". The diagonal angle of the pressure of the breath, from the lower back to the center of the chest, is maintained until the tone or phrase is finished. When baritone Mattia Battistini, considered with Caruso and Fernando De Lucia, to be one of the three best male vocalists of all time, was asked what he thought about while singing, he answered, "**I press my chest**". Caruso said to "**pull in the abdomen while inhaling and raise the chest. Do a contrary motion while singing**." Lilli Lehmann said to "**Jerk the abdomen inward the instant before inhaling, and press the**

breath against the chest while singing." She used the German word **'Atemzug'** to describe the function of the abdomen while inhaling. Her translation into English was 'Breath Jerk'. As soon as the singing began, she would press her breath against the chest, and, like Caruso, relax the abdomen outward. Geraldine Ferrar and Olive Fremstad, Lehmann's most famous voice students, became historical sopranos using the 'movements of the mind' as directed by Lehmann. Both enjoyed long, spectacular careers as Prime Donne (first ladies of the opera) using Lehmann's vocal method of jerking the abdomen inward an instant before inhaling and 'placing' the inhalation into the lower back. An instant before the singing began, the breath was pressed against the chest' and the abdomen was relaxed outward while singing. There is no doubt that Lehmann taught Ferrar and Fremstad how and where to move their minds while breathing and singing.

Tito Schipa, another singer renowned for his perfect vocal technique, said that his teacher told him to "**Breathe into the lower back while pulling the abdomen inward, as if preparing to sigh, and, at the instant the singing begins**, **sigh against the chest and the belly in the mode of the necessary emotion."** Richard Tucker and Eleanor Steber recommended the same location for the 'appoggio' when advising young singers, as did Jan Peerce. They agreed that the singers should "**breathe into lower back and sing against the chest**."

The first time I met the Richard Tucker, he demonstrated a full inhalation that was placed "behind him" (into his lower back) **while pulling the corners of his mouth back into an 'open smile'**. The breath seemed to pour into his body endlessly and silently through his nostrils until he felt prepared to sing. He then let out a colossal attack on a high A-natural "in front of him" (against his chest). He said, "You see! The breath in the body does all of the work and the vocal cords only vibrate. The throat does nothing. The energized breath makes the tone, not the voice." He used what he called the 'diaphragmatic lift'. It was the same breathing method described by every great singer I ever met, with a slightly different way of describing what was happening. The 'lift' was performed as follows:

Pull in the abdomen and raise the chest when inhaling. Hold the chest and the abdomen dead still (Amelita Galli-Curci was quoted as saying that "the abdomen should be glued against the spine while inhaling") and lean the breath outward and forward at a **downward angle against the lower part of the arched chest** for the attack and the sustaining of the tone. Pavarotti, Joan Sutherland, and Jan Kiepura may have been using this method to a certain extent, suggested to the observer by the extreme forward-leaning posture they often used. Leaning the body forward at extreme angles while singing breaks the theater rule of 'Never show the work', but no one objected when the singing was as wonderful as those three great singers demonstrated to the world. Breath inhaled into the lower back will automatically be 'pressed' against the lower chest if the body is leaned forward extremely while singing. Also, they all threw their heads up and back at extreme angles while singing, especially on high notes, as did Monserrat Caballe and Alfredo Kraus. Tucker certainly threw his head back when he sang some of the big high notes in the Verdi operas, delivering them directly to the upper balconies. His method of breathing and support resembled the method described by Caruso and served him perfectly during a very long and successful career. The only difference in the way the two great tenors described their psychological approaches to singing was that, instead of holding the abdomen perfectly still while singing, Caruso said to "do a contrary motion" with the abdomen after pulling it inward while inhaling. That means that he was letting the abdomen fall outward while singing, exactly as described by Lilli Lehmann in her book, **How to Sing**.

Common Knowledge

It is amazing for us today to realize that there used to be common ideas and criteria among singers and teachers all over the Western world that included the same procedural commands directed to the breathing system while inhaling and singing. The Italians seemed to have had the most knowledge and success with their ideas about how to produce the voice. In that country, between 1800 and 1950, the

knowledge that created great singers was available to young singers from North to South and from East to West. Every major city in Italy had a voice teacher who knew the same things about breathing and support and could produce professional singers. This knowledge was not limited to the Italian peninsula, however. Great vocalists came from England, Scandinavia, France, Austria, Germany, Russia, Spain, Greece, Holland, Hungary, Czechoslovakia, and Poland. How is it possible, that knowledge about how to inhale and how to 'lean the breath', once taught all over the civilized world, has disappeared from the scene? The great tradition of the finest technique for singing has virtually been lost. Voice teachers today ask for breathing and support functions that are in **total conflict** with the biomechanical recommendations of the greatest singers. Caruso, Tetrazzini, Lehmann, Mattia Battistini, Georges Thill (who learned the 'method' from Fernando De Lucia), Lauritz Melchior, Helge Roswwaenge, Zinka Milanov, Richard Tucker, Lluba Welitch, Frieda Hempel, Lucia Popp, Aureliano Pertile, Antonio Cotogni and his great students, Beniamio Gigli and Giacomo Lauri-Volpi, and countless other fabulous vocalists, all recommended that the breath be **taken into the lower back while inhaling, and leaned against the chest while singing**. Today, teachers who were never successful singers recommend, not just something different, but the **exact opposite** of what the greatest singers advised!

Looking Back

When I look back on what Richard Tucker told me about breathing and support, I am still amazed at the clarity and simplicity of his thinking, and the precision he used in its application. He told me exactly where and how to inhale (silently through the nose and **into my lower back,** while pulling my abdomen **inward**), and where to place (lean) my breath while singing (**outward** against my perfectly still lower chest at a downward angle) without allowing my abdomen to move. Tucker moved his mind **sequentially** to instigate a series of physical applications that allowed him to fulfill the criteria of some of the most difficult vocal music ever written for the tenor voice. He

never sang "Otello" or "Tristan" or "Siegfried", but it was obvious to every opera fan that he could have sung them wonderfully had he chosen to do so. Tucker was the 'tenor's tenor' during my student days in New York, precisely because he could sing anything he wanted to sing, and perform it beautifully, energetically, and reliably. He had the biggest tenor voice I ever heard sing 'Ferrando' in Mozart's COSI FAN TUTTE. No one came close to his 'Ferrando' vocally during his reign at the old Met, because no 'big' tenor had sung Mozart in a major theater since Helge Roswaenge. However, the definitive 'Ferrando' who had everything required of a historical Mozart tenor, whose voice was a German Lyric tenor of the first order, did not have the big, bronze tones of Richard Tucker or the enormous, ringing silver bells of Roswaenge's fantastic voice. Of course, no one really the lack of raw power as long as the lighter tenor was Fritz Wunderlich!

The 'Natural Singer'

I would include Fritz Wunderlich on the list of great singers. Any discussion about singers who sang with gorgeous voices and demonstrated exemplary vocal technique and style would be incomplete without his name being mentioned. He was a fabulous vocalist with a marvelous, free, and sympathetic vocal delivery. However, I hesitate to include him in this essay based on 'moving the mind', because, unlike other great vocalists, he didn't seem to use his mind in the cognitive sense at all when he sang. His entire approach to singing seemed to rely on a psychomotor response to his **desire to sing**. In other words, he fulfilled the definition of a pure, natural singer. Although his voice was pure silver and as sweet as candy, and his vocalism was in every way extraordinary, he did not want to discuss his mental approach to singing. When I asked him how he sang, he said, 'like everybody else'. Well, that certainly wasn't true! He was, without a doubt, the very best Mozart tenor in recorded history. Tucker was astounding to hear in Mozart because he had such a big, ringing, multi-colored voice in such light music. However, those of us who were fortunate enough to have heard

Wunderlich in a live performance knew we were in the presence of a vocal and stylistic phenomenon. There was no need to compare him with anyone, and certainly not with the 'power tenors'. He was able to stand alone as a great, unique singer who could 'please all of the people all of the time'. There was no evidence that he was analytical about his vocal method, or that he had a process of sequential thinking to keep him organized. Most of the singers who worked with him regarded his as a 'natural' singer. He just opened his mouth and out came flawless singing. Perhaps he didn't want to discuss vocal technique, like Cornell MacNeil and Cesare Siepi. There are singers who keep their secrets to themselves, for whatever reason, and there are singers who really don't know how they sing in the **cognitive** sense. They don't seem to think a series of thoughts that dictate predictable responses in the body. Tito Ruffo comes to mind as the greatest example of a historical singer who couldn't explain how he sang or what he thought about while singing. When asked why he didn't teach to provide an income for himself after his retirement, he said that he "…had no idea what to tell a student about how to sing". He "…opened his mouth and the voice came out". One day he opened his mouth and his voice did not come out and he didn't know why. He had to retire from singing. Ebe Stignani and Eileen Farrell were the same way. They never discussed technical singing. They just punched their mental buttons that called forth perfect singing and they did it for years. During an engagement I had to sing a series of performances of Dvorak's RUSALKA in Munich, I decided to observe Wunderlich closely in performances on my days off, and try to discern the actions of the **key elements of the vocal puzzle when he sang**, just as I had done while a student at the old Metropolitan Opera when the best singers performed.

Observing the Key Elements

I concentrated my observations on a list of observable body functions while Wunderlich was actually singing: The chest (sinking or still), the belly (moving inward or outward while singing or inhaling), the nose (open like and 'mm' or closed like a 'b' or 'd'), the

corners of the mouth (puckered forward or pulled back), the hinge of the jaw (showing a separation from the skull or not), the angle of the head (held level, lifted upward, or facing downward), the upper lip (covering the upper teeth or lifted to show the teeth), the tongue (pulled back away from the teeth or placed against the lower teeth or the lower lip), the teeth (showing or hidden?), and the movements of the lower back during the alternating functions of inhaling and singing. Needless to say, he used all of the parts of the vocal puzzle like a fabulous tenor from the Golden Age of Bel Canto. As far as I could tell, everything functioned when he sang exactly like the technical, physical responses of Richard Tucker, Jussi Bjoerling, and Helge Roswaenge when they sang! No wonder his voice was so exquisitely beautiful and full of tenderness and velvet. He could have written the Caruso book!

I never knew if he was actually 'moving his mind' when he inhaled or if he thought about the 'Atemstauen'(breath stop) when he sang. He definitely achieved what can only be described as perfect singing, while fulfilling every criterion desired in a world-class tenor. What was he thinking about when he sang? Was he thinking at all in order to achieve the physical movements in the back and the posture of the chest we observed while he sang? Was it all 'natural' and 'automatic'? According to the German baritone, Herman Prey, Wunderlich's best friend, Fritz was a pure, natural singer who couldn't tell even his closest friend (Herman) how to become a better vocalist. All he told Prey was that he 'dropped everything when he had to sing." "God and Nature", to quote Lilli Lehmann's praise of Adelina Patti, provided Wunderlich with everything a singer can possibly possess in terms of vocal beauty, volume, ease, range, and a touching, charismatic quality that thrilled the public.

Thinking, Doing, Being

'Hamlet' says, in the second scene of the second act of Shakespeare's play, "Nothing is good or bad but thinking makes it so." It is crucial for a singer to think the right things if he/she is going to sing with the throat completely free and relaxed. There are very few 'natural'

(non-thinking) singers in the entire history of singing. They can be named on one hand…Adelina Patti, Eileen Farrell, Regine Crespin, Titta Ruffo, Franco Corelli, and Fritz Wunderlich. Lilli Lehmann said, "…Adelina Patti has been endowed by God with everything a singer needs to be perfect. The rest of us must all spend our entire lives striving to perfect our Art."
Maggie Teyte titled her book, "The Pursuit of Perfection". She allows that some singers don't have to worry or analyze or have a psychological 'construct' that brings order to the myriad possibilities of the vocal organ. Cognitive planning and execution are not necessary in the minds of a chosen few singers. They seem to have no idea how they sing when asked repeatedly by colleagues and admirers. The usual analytical process that brings mind and body to obedient coordination seems to be unnecessary for the chosen few. Sadly, they, the perfect ones, either don't attempt to teach at all, or they become very bad teachers.

Essential to our pursuit of perfection is learning to move the mind in the right way to the right places at the right times. Buddha said, "Right **thinking**, right **doing**, right **being**." We must appreciate the order in which this advice has been given to us. We must **think** the right thoughts (move the mind to the lower back and inhale), in order to **do** the right things (move the mind to the chest and 'press' the breath against it while singing) in order to **be** good singers. It is what we think about during out 'pursuit' that will decide if we become good singers or not.

'The Superabundance of the Breath'

Once a singer has accomplished the placement of the inhalation, the next thought has to be the placement of the 'lean' of the breath against the chest (the 'appoggio). Tetrazzini said to "lean the breath against the sternum like leaning a ladder against a wall."
It is obvious that the total amount of breath accumulated in the lungs must not be suddenly released and allowed to gush against the vocal folds at the instant of attack. We must control both the emission of

the breath that produces the singing voice, and the **'superabundance'** of the residual breath (Manuel Garcia's term to identify and describe the air that fills the lungs that cannot be utilized by the vocal folds at the beginning of a phrase.) that remains in the lungs until it is needed. Lilli Lehmann called the pressure of the breath against the chest "stopping the breath" (Atemstauen). The breath that has been inhaled into the "lower rear quadrant of the lungs", and has filled the lungs "from the bottom to the top" (Tetrazzini), must be 'stopped' ('restrained', 'leaned', 'pressed' or 'compressed') by pressing (squeezing) it with the ribs in the lower back against the chest. It is obvious that the 'massive inhalation' recommended by Caruso must not be allowed to suddenly pour out of the lungs all at once when a singer begins to sing a note. The 'breath stop' (the 'lean') must be applied with sufficient energy and determination, in terms of location and **equalizing pressure**, to organize the controlling balance of the opposite and equal reaction to the resistance of the vocal folds. Equalization of the degree of resistance of the vocal folds is constantly necessary as each note or phrase is being sung. Breath is compressed by the ribs against the chest as it is lost to the emission of the voice in direct proportion and equalization of the resistance of the vocal folds. The stream of breath that supplies the emission evenly to the larynx is a perfectly controlled, slender stream of breath that does not exceed in amount that flow which can be utilized by the vocal folds at the moment of the instigation and sustaining of the sung tone. Any amount of breath left in the lungs and not needed at the moment is retained and controlled by the 'appoggio'. Lamperti said, "…**The problem for the singer is to give the breath and restrain the breath at the same time".**

Any form of excess, unutilized breath against the vocal folds, including the smallest 'leak' of air, can be damaging. It must be 'stopped' (prevented by the use of the 'appoggio') at all times while singing. The 'superabundance' of the breath must be 'sealed' (stopped) until needed to supply the even emission of the voice. It is imperative that the function of the vibrations of the vocal folds be left free of any excess breath, whether leaked or pushed or simply

released, that cannot be utilized to produce tone. The mind is moved to the 'point of leaning' (the 'punto d'appoggio'') or to the general area of the lower chest, and the 'superabundance' of the breath is pressed (leaned) and held there in reserve until needed. It goes without saying, that any use of constricting action in the throat to control the emission of the breath while singing is absolutely wrong and must not be allowed. The throat must remain free at all times.

The Valsalva Maneuver

Audible 'grunting' or 'squeezing' of the sound produced by the slightest upward or downward pressure of the breath is a clear indication that a reaction to an active '**vertical lean'** is taking place in the larynx and against the vocal folds. One manifestation of leaning the breath vertically is known as the 'glottal attack.' This kind of misdirected attack must never be allowed. It is destructive to the edges of the vocal folds and, if not corrected, will ruin the voice in a relatively short period of time.

It is possible and desirable to press the breath against the chest with sufficient intensity to balance the resistance of the vocal folds. Although the biomechanical procedure of 'appoggio' resembles what is called in the field of medicine a '**valsalva maneuver'**, there is a crucial difference. The true 'valsalva maneuver', originally designed by an Italian anatomist to help clear stopped up ears by exerting breath pressure against a closed glottis, requires a **vertically pressed 'lean'.** A reaction against the glottis under these conditions may be considered medically normal, but it is vocally terrible. The resulting grunting sound, especially if sustained and coming from the throat, a sure sign that the pressure of the breath is functioning in a vertical fashion, is common in heavy lifting, or pushing downward against a constipated bowel.

a) The Diaphragmatic Cut-off

Although it can be confused with the damaging 'stroke of the glottis', there is a 'good grunt' that is audible if the cut-off of a note is founded in the diaphragm. It happens when words end with a vowel, and, therefore, is more often heard among Italian singers. In some

great singers, both male and female, it is very audible on their recordings. The ultimate 'grunter' was Caruso. However, both Rosa Ponselle and Luisa Tetrazzini were often guilty of allowing some unlady-like grunts to audibly occur. The great difference in a 'bad grun't and a 'good grunt' is determined by the evidence of activity in the throat. "'Bad grunts' always are invariably directed vertically, usually upward, or are exaggerated to the extreme (lifting heavy weights) which causes the vocal folds to cease their vibrations and begin to communicate effort and strain. 'Bad grunts' always 'show the work' in the throat, and the pressure of breath is generalized in the body.

'Good grunts' are invariably directed in a non-vertical direction, away from the throat, against the chest, which leaves the vocal folds entirely free to vibrate at their maximum level of performance. There is no evidence of tension or strain in the throat or neck while singing, and the tiny 'grunt' is really not a 'grunt' at all, but the sound of a diaphragmatic cut-off. The sound of the 'mini-grunt' is deliberately incorporated into the vocal methods of some teachers in Italy. If it can be used without causing any action or reaction in the throat or neck, and does not exceed the volume or intensity of the music, and is produced by the lean of the breath against the chest, it is not only acceptable. It is to be desired. Some teachers teach it in order to acquaint the student with the correct 'mini-grunt', and to help them identify the bad vertical grunt that can make a singer turn completely red in the face! Perhaps it is a good thing to be acquainted with the bad one in order to avoid it in the future, in case some bad technical singing should creep into the singer's life.

Singers and teachers who are curious can listen to Caruso, Gigli (the sobbing 'grunt'), Carlo Galeffi (another sobbing 'grunt'), Rosa Ponselle, who sometimes would 'grunt' between the syllables of a word, Maria Callas, who used it as an acting tool, and Tetrazzini, who was obviously pressing her breath against her sternum and the release of the pressure is sometimes audible. Once the listener becomes aware of what to look for, he/she will be amazed to hear how common the audible 'mini-grunt' was and how easily identifiable it is among the greatest singers on recordings.

b) <u>The Angle of Compression</u>

It is not pressure alone that causes a either a freeing action or a limiting reaction in the throat. The **angle of compression** is the crucial, deciding factor that will dictate the corresponding reaction in the throat. If the ultimate goal is to achieve a free glottal function, the action/reaction of the pressure of the breath must never occur on a vertical plane, either upward or downward. Vertical leaning only works if the vertical action is purely passive and gravity controlled. Pressing the breath against the chest (a diagonal lean) will not cause a restricting reaction in the throat, because the angle of the line of pressure from the lower back to the chest does not react against the throat. The pressure of the breath against the chest is the reaction to the closing ribs in the lower back. Pressing vertically downward while singing, as if constipated or lifting a heavy weight, is a faulty support method that causes a reaction in the vocal folds. The vibrations of the vocal folds can be drastically and negatively affected by a vertical lean. Singers who use the concept of 'heavy lifting' or pressing down vertically into the pelvis, which may cause audible 'grunting' to occur in the larynx, should practice speaking and singing without any **audible reaction in the voice** or **visible reaction in the throat**. Singers can work in front of a mirror to seek out and remove any visible signs of resistance in the throat while singing, but a vertical lean, even if cleverly hidden from view, will continue to create reactions where they are not wanted. It would be much more efficient to create a new angle of 'lean' (appoggio') **that does not react in the larynx**. A different degree and location of equalizing pressure of the breath to the resistance of the vocal folds can be achieved by changing **from a vertical support method** to a **diagonal support method**. The ideal angle of 'lean' is decided by **moving the mind from the lower back, which has been filled with breath before singing, to the lower chest**. The pressure of the breath against the chest will relieve the tendency to create or allow action/reaction systems in the throat that can interfere with the free vibrations of the vocal folds.

We must remember Dame Eva Turner's observations concerning tension or reactions to pressure in the throat: **"The throat, the jaw,**

and tongue and the neck, should feel as if they are not there, as if they don't exist. **They should feel invisible. The weight of a grain of salt or sugar would cause too much action/reaction in the throat.** There should be **no vertical pressure of the breath** while singing, **either upward or downward. The breathing method employed has as its main purpose the protection of the throat."**

Action and Reaction

The third law of motion assures us that **"For every action there is an opposite and equal reaction".** Downward vertical pressure will cause a severe reaction in the throat and constrict the larynx. We must accept it as a law of Nature. The pressure of the breath must be limited to a horizontal or diagonal plane, ideally from the lower back to the lower chest. It must never be allowed to become vertical and affect the vibrations of the vocal folds. Singers who **pull the abdomen inward while singing are literally forcing breath upward against the throat**. Any pressure of the breath against the throat must be somehow neutralized to allow the voice to sing. We see every muscle in the throat active in some singers. The quality of the sounds they make is often marred by tremolo, wobbling, pinching, grunting, pitch problems and/or nasality. All of these terrible consequences can be avoided if the abdomen is allowed to relax outward while singing, as recommended by Caruso and Lilli Lehmann. Of course, in order to let the abdomen fall **outward while singing**, the abdomen must first be **drawn inward while inhaling** (Caruso and Lehmann recommended this method in their books.).

The Ideal Angle

The ideal angle of the 'appoggio' or 'Atemstauen' should be established as a directed line of breath that is propelled from the lower back to the center of the chest. It is the angle described by the

great singers of the past as a 'leaning of the breath against the chest while singing'.
A vertical angle of 'appoggio' will act (or react) directly against the larynx and limit the vibrations of the vocal folds in direct proportion to the degree of the intensity of the vertical pressure being applied. In order to prevent a reaction in the vocal folds, **the mind must be moved to the front of the diaphragm immediately after inhaling into the lower back, and the breath must be sent from the lower back against the chest under sufficient pressure to insure that the breath will not leak or gush into the throat while singing.**

"Push! Push! Push!"

Pavarotti responded to a question about the mechanics of 'breath support' in a Master Class at the Juilliard School by placing his hand on his lower chest and moving both hand and chest outward, away from his body. "It is like a baby here. Push, push, push! It is like the airplane that takes off and climbs. The push of the engines must not stop for an instant. If the motor stops, the airplane will fall down." He made it very clear which spot (the lower chest) he had chosen for the activity of the 'leaning' of the breath (the 'appoggio'), and the direction he wanted the breath to move (outward) while singing. Later, when we asked him if he meant to use the English equivalent of the Italian word for 'push' ('spingere') during his demonstration of 'breath support' for the voice while singing. He was dismayed at his faulty translation of the word he had wanted to use, which was 'appoggiare' (to lean). "Babies stomachs lean out when they laugh or cry. They don't pull in", he said backstage. "I should have used the English words …lean, lean, lean"!

'L'Appoggio' and the 'Sternal Arch'

'L'Appoggio'('leaning') can be explained by asking a singer to lean his/her weight against a wall in a way that creates a secure and unchanging posture. The wall will not move and its perfect stillness will provide a secure support for the leaned body of the singer.

Another Tetrazzini quote describing the feeling of the 'appoggio' was "…like resting the breath on a shelf formed by the chest". Additional pushing or agitating of the body against the stillness of the wall will not improve the maintenance of posture and position. The leaning of the singer's weight against the wall will be sufficient to maintain a controlled posture. Any additional pushing or agitated movement against the wall will only waste energy and cause general stiffening and effortful actions and reactions in the muscles of the body that are not necessary or beneficial to the task at hand. There is always a danger that any agitation of the muscles in the body may react in the larynx.

Imagine singing while leaning against a wall. Pushing against the wall is will not improve the quality of sound being produced and could become dangerous for the voice if the activity of pushing activates the vertical 'lean' which will react in the throat. The Third Law of Motion ("For every action there is an equal and opposite reaction.") is always in effect. Any pushing action can cause a reaction that may not be beneficial to the voice. However, the total weight of the singer can be committed to a leaning posture if the wall is strong and unyielding in position.

Just as the wall against which we lean our bodies in the example is **already established** and **fixed in space**, **the position of the chest must be pre-established and fixed in space by the posture of the singer, before breathing and singing begin**. This is the source of the concept of the **permanent 'Sternal Arch' in singing, which is the wall against which a singer leans the breath.**

The 'sternal arch' is created by thrusting the sternum out and forward, using the back muscles which create a curved (arched) chest wall against which the singer must lean the breath. It is sometimes created by pre-leaning the chest outward which is a posture that is independent of the inhalation, or sometimes as a result of deep breathing into the chest while drawing the abdomen inward, which creates the ultimate expansion of the 'breath-box'. The same extreme opening of the chest can be accomplished over time by posturing as in the practice of Yoga. This position of the chest is often called the

'correct posture for singing'. (Lamperti said to "…stand up like a soldier.") No further movement outward of the chest wall is necessary if it can remain fixed in space in spite of the collapsing (squeezing) of the ribs in the lower back. The chest must never be allowed to collapse inward or downward while singing. The pressure of the breath against the chest is often referred to inaccurately as 'breath support', as if the breath itself holds the chest up in its position. The breath does not support the chest, just as we do not support the wall when we lean against it. Rather the chest is exploited in singing by taking advantage of its pre-set, fixed position. It is the 'solid 'wall' against which we lean the breath. A singer can establish the posture of the chest **independently** and maintain it separately **at all times** by the muscles in the lower back, **whether singing or not**. The 'sternal arch' should be cultivated and incorporated into the regular, every day posture of a singer. It should be maintained as a habitual 'state of being', in the same manner as a Martial Arts Master maintains his/her posture at all times. Some very famous singers have allowed the chest to collapse when they began to sing dramatic music. Their careers ended soon after. Singers who are weak in the muscles in the back can slowly develop strength in them by gradually lifting the chest upward and outward while singing, to counter the tendency for the chest to collapse. Eventually, the strength of the necessary back muscles will develop sufficiently so that 'counter-lifting' will not be necessary.

The 'sway-back' or 'curved back' is often used to support the chest in its 'arched outward' position. However, it is not necessary to sing with a swayback **if the lower spine is elongated** with every inhalation into the lower back. The elongation of the lower spine when inhaling will prevent the curved appearance of the back while singing, and still allow the muscles that support the posture of the 'sternal arch' to function.

The 'Dead Lean' and the 'Live Lean'

There are two identifiable possibilities that a singer can use to create a lean against the wall that will provide a secure, free posture and a free throat. One is called a 'dead lean'. Stretch the arms out with elbows straight and stiff, and, placing the open hands against a wall with the legs straight, lean the weight of the body forward at a 45 degree angle or until completely committed. The body is now secure but without any flowing 'circle of energy'. Singing in this posture will be 'dead', without expression or performance energy. It will cause the diaphragm to produce 'straight' or 'still' tones that are completely lifeless and boring. Singers who sing a lot of straight tones use a 'dead lean' of the breath against the chest. It is common among singers who specialize in Baroque music or Barbershop Quartets, and should be taught to those who want to sing without vibrato for some reason. The most famous 'dead leaner' in the recorded history of opera was Nellie Melba. When Rosa Ponselle was asked her opinion of Melba, she replied, "…Melba had a fabulous voice, but she sang too many 'still' tones."

Another possibility is to lean the weight of the body against a wall using the hands as before and the legs straight, but with the arms bent at the elbows at a medium angle, as if halfway through a push-up. Some practitioners of Yoga do the Cobra position with the elbows bent. Straight elbows are not to be used in this type of lean, called a **'live lean'**. It is 'live' because the energy flowing through the bent arms, coming from the entire body, creates a 'circle of energy' that will influence the production of the voice and the many possible expressions to be used in the repertoire we sing. Singing based on a 'live lean' will be full of excitement and color. The idea is to transfer the concept of the live lean against the wall to a 'live lean' of the breath against the chest.

It should be clear that singers do not have to lean against a wall in order to sing well. However, the example is a good one if applied to the 'lean' against the chest while singing.

In the discussion above, the immovable wall represents the **perfectly still chest**, thrust forward and outward, creating the immovable '**sternal arch'**.

The weight of the body, leaned against the wall, represents the weight of the breath, leaned against the chest.

The 'dead lean' represents the type of **inactive** diaphragmatic non-action that, although leaned, produces 'straight' or 'still' tones. This method is necessarily taught to certain singers in order to deliberately remove and eliminate any vibrato in the tone.

The 'live lean', **also totally leaned and committed**, represents the type of **active** diaphragmatic action that produces expression, color, and vibrancy in the voice.

The breath should be 'leaned' (pressed) against the immovable, forward-thrusting chest (the 'sternal arch'), as if the breath were 'alive' and had weight, and not pushed as if trying to move the wall itself (the chest) with 'dead' force.

A Reminder of the Correct Function

Luisa Tettrazzini, in her book, describes exactly how to inhale and how to support the voice. Her mind was organized in a very specific, thought-by-thought, sequential way that made every aspect of her singing predictable. She said to "inhale the first drop of air into the lower rear quadrant of the lungs' and to "fill the lungs with air from the bottom to the top." Then, an instant before the attack of the tone to be sung, the breath should be pressed or leaned against the sternum "like leaning a ladder against a wall." The 'appoggio', although dependent on gravity and 'leaning' instead of force to generate the necessary energy for singing, must be sufficiently vigorous in order to gain absolute control of the emission of the tone. We are acquainted by now with some of the terminology used by great singers to describe the 'appoggio': 'press the chest'; "…like

propping a ladder against the wall; 'sighing'; a motion that is 'contrary to inhaling'; 'lead with the chest'; 'counter-breathing. In spite of the recommendations handed down to us, we must still find the necessary commands that will coordinate our voices with our breathing capabilities. Some music we sing may require a heavier 'lean', like leaning a heavier ladder against a wall. It is often evident that some singers, instead of leaning a heavier ladder to maintain the necessary 'appoggio' in more dramatic music, begin to push the small ladder they have been using even more vigorously against the wall. We must remember that, regardless of how vigorously we apply 'live leans', the wall against which we lean does not move, and a bigger ladder (more breath development, both capacity and strength) will be required for heavier roles. That is the main reason for singing dramatic roles as late as possible. Give the breathing system plenty of time to develop, and more vigorous 'pushing' against the wall won't be necessary. The weight of the heavy ladder will do all the work.

The Resistance of the Vocal Folds

The degree of intensity required by a 'live lean' will depend very much on the resistance of the vocal folds. Huge voices require more intense (heavier) 'leans' than small voices in order to equalize the resistance created by thicker, longer vocal folds. A large person doing push-ups will have to expend more energy than a small person, and will require more muscle development. Perhaps this explains why singers with huge voices often have huge bodies. Lauritz Melchior was 6'6" and weighed 350 lbs. Clara Butt was 6'2" and had a full figure. Leo Slezak was 6'9" and weighed 390 lbs. Marti Talvela was 6'9" and probably weighed much more!

On the other hand, the very light voices tend to come in smaller people. Tito Schipa, whose gorgeous voice was very light in color and weight, was a small man. Because of the lack of resistance in his small, short vocal folds while singing, he was able to use his concept of "**sighing** against the chest" as a breath control technique. His vocal cords were delicate and slender, and could not have functioned

if they had been loaded with exaggerated breath pressure. 'Leaning' heavily against his delicate voice would have ruined it in a short period of time. Thank goodness his teacher understood how to train Schipa's voice with tenderness and exquisite balance instead of overreaching the capability of the voice. Beniamino Gigli said about Schipa's singing, "…We must all bow down to the Art of Tito Schipa."

Heavier voices may have to 'lean' (press the weight of the breath against the 'sternal arch') more determinedly. The 'superabundance' of the breath, the breath in the lungs not yet needed for the tone or phrase, is controlled (maintained in the lungs until needed) by the 'lean' (the 'appoggio, the 'breath stop'). Lilli Lehmann, in her book, gave the pressure of the breath against the chest a German name. She called it 'Atemstauen' ('restraining the breath' or 'stopping the breath'). 'Die Staumethode' (the 'stopping' or 'restraint method' of breath control) is a concept still used today by some singers in German speaking countries.

Recommendations by the Greatest Singers

The greatest singers in history tell us to 'press the breath against the chest', or to 'lean the breath against the center of the sternum' or to 'lift the chest when inhaling and do a contrary motion while singing", or to 'sigh' the tones. Giacomo Lauri-Volpi described the voice of Claudia Muzio as a voice "… full of sighs and tears." All of these actions require a **movement of the mind** to the chest against which the breath is to be leaned. The concept of the 'point of leaning' was fairly common among Italian sopranos who had to sing a lot of coloratura music. The 'appoggio', recommended with such conviction by the greatest singers, will **stimulate a diaphragmatic response while singing**. The '**sternal arch,'** easily identified in the posture of certain singers, was a basic requirement of all singers of the Bel Canto era. Aspiring young singers should study photographs and films, and observe particularly the postures and **chest positions** of Caruso, Nellie Melba, Giuseppe De Luca, Luisa Tetrazzini, Lilli

Lehmann, Louise Homer, Frances Alda, Jan Kiepura, Joan Sutherland, Pavarotti, Ernestine Schumann-Heink, Robert Merrill, Birgit Nilsson, Richard Tucker, Mattia Battistini, Tito Schipa, and Zinka Milanov. Although many photographs of the great singers were taken while they were not singing, it is possible to identify the **outward and forward thrust** of the extraordinary chests in this historical group of great vocal artists. Pavarotti said, in his Master Class at Juilliard, while pounding on his lower chest like a great Silverback Gorilla, "It is like a crying baby here! Push! Push! Push!!" He said this while demonstrating an **outward pressure of the breath** against the lower chest. His sternum was **already thrust forward** before he demonstrated the outward movement and pressure of the 'lean'.

Using *Staccati* to Pinpoint the Center of the '*Lean*'

Once the 'appoggio' is established, the singer can practice singing staccato exercises against the center of the sternum. Singing quickly repeated, very short tones against the lower chest will develop awareness of the location of the 'punto d'appoggio' (the 'point of leaning'). This much-desired awareness of the 'punto', also called the 'punto d'attacco' (the 'point of attack'), or 'der Stuetzpunkt' (the 'point of the base of support'), gets more clearly identifiable with practice, and can be used as an identifier for moving the mind to the exact placement of the 'appoggio' for the attack of the tone. Sustaining the steady emission of the voice becomes easier, more consistent, and more automatic by practicing the application of a steady pressure of the breath against a specific point on the chest. These staccato exercises should be sung using vowels and lines of text without the slightest hint of tension in the throat or jaw. The only muscular action allowed from the chest up while singing is the drawing of the corners of the mouth back in an open smile. The 'open smile' causes the lower jaw to unhinge and contributes to the open throat. The 'smile' should be created with each inhalation and maintained at all times while singing.

Habits are formed through repetition, and repeating 'leaned' staccati will help to program the mind to seek the 'punto d'appoggio' at the instant of every attack. Ideally, the processes of inhaling into the lower back and leaning the breath against the chest, both physically and mentally, become habitual through dedicated practice. The ideal is for the entire physical, mental process of vocal technique to become habitual. We want good singing to happen automatically. Every day we breathe and develop as much capacity and sustaining strength as possible in order to be able to apply them when instigating the totality of the act of singing. In most cases, a singer will feel a physical **pulsing of activity** behind or against the inside of the sternum while singing staccati. Singers who cannot feel the subtle pulsing of the staccati against the chest can apply a heavier accented form of staccati called martellati (hammered notes). The martellati are produced like the staccati, except they are slightly longer in duration, accented, somewhat louder, and more intense. Heavily accented staccati (martellati) will not harm the voice if they are repeated outward against the chest and away from the larynx. Of course, all and any action in the throat or against the throat, except the downward reaction of the larynx and the opening of the epiglottis to deep inhalations, should be avoided at all times.

Good and Bad Commands

Certain mental commands, which are specifically directed movements of the mind, are more beneficial than others in everything we do in our lives. In singing, the responses to bad mental commands can ruin the voice and end a career. If someone says to lift the soft palate upward and backward, the mind moves to that general area and gives the command. The upper throat will do its best to obey the unnatural command by forcefully lifting a resistant palate in a most unnatural way. This simple, ruinous command, executed independently, without depending on correct breathing to dictate a correct reaction in the soft palate, will pull the resonance of the voice up and back and **away** from the 'True Mask.' As if this were not

already bad enough, the opposite and equal reaction to lifting the palate requires that the throat **respond muscularly** as an opposite and equal reaction. The opposite of lifting is pulling. If the larynx is lifted, the reaction will pull the larynx downward. If muscles lift upward, muscles must pull downward. The Third Law of Motion says this is so. It is not open for discussion, no matter how convinced a teacher may be that the palate must be lifted mechanically. This is a disaster in the making and can easily be identified by putting the fingers against the throat and feeling what happens when the soft palate is artificially lifted. This form of false opening and spreading of the throat is not dependent on the "power of the respiration" (Caruso) and therefore breaks the first rule of the Bel Canto vocal style: "**No action in the throat**". Remember, once the 'sternal arch' is established, nothing else in any part of the body moves unless the inhalation into the lower back moves it. Even the abdomen will be drawn inward as a response to a powerful inhalation into the lower back (the 'massive respiration' called for by Caruso), especially if the lower spine is elongated while inhaling. However, if the inhalation is not powerful enough in the beginning of training, the abdomen should be pulled inward as a conscious, separate action with each breath. Buddha said, "Bring the body and the mind will follow." Although it is not ideal, it is possible to develop the desired functions of the body by stimulating them independently if those stimulations are correct and do not cause reactions in the throat. Ultimately, the only acceptable action/reaction system for singing consists of **exaggerated, deep inhalation** into the lower back, and, at the moment singing begins, 'leaning' the breath against the chest.

The loss of the resonance of the True Mask, which occurs when the palate is lifted toward the back of the throat or head, can be a disaster for the voice. It will depend on how damaging the misuse of the breath and the artificial lifting of the palate have become. Every muscular activity in the throat, once it has occurred, must be equalized by some other muscular activity if the voice is to avoid permanent damage to the vocal folds. After all, once dangerous muscular action has occurred because of bad teaching or stupid singing, the throat must be protected by any and every means

available. Sadly, that often means constricting the flow of the emission or 'vowel modification' or 'focusing,' or 'covering' in the passaggio.

Singers, who lift the palate up and back, invariably attempt to compensate for the throaty, tense resonance occurring in the lower pharynx by moving the mind forward into the nasal cavity (focusing) and singing there. This madness is usually accomplished by vocalizing words that open the nasal cavity, such as 'ming, mang, mong, or 'ying, yang, yong'. This ridiculous approach, pulling the voice **back** out of the resonance, and then, adding insult to injury, placing it **forward** again by thrusting the voice into the nose, is one of the most damaging approaches to singing and vocal health in the history of singing. We can be certain this artificial method was not invented by a singer who had to stand on a stage and sing for hours over a huge orchestra without a sound enhancement system! No real singer would pull the voice up and back in the first place if it will have to be immediately shoved forward. Where is the logic? Why would a singer want to sound like a 'Wookie'? Why not just skip the movement of the palate and sing into the nose right away (like a nasal Wookie)? The sound is going to be diminished and constricted the instant the throat acts or reacts muscularly. Of course, all of this artificial opening and spreading and nasal 'focusing' will create a sound that will not project well over an orchestra without a sound enhancement system. An attempt will have to be made to compensate for the confused, unnatural process going on in the poor singer's throat. The tongue will have to get involved by 'cupping' or forming a 'ski-slope' shape in order to get, at least, some mouth resonance into the tone. Mouth color and throat color, normally avoided because they are so far under the True Mask, are supposedly better than no color at all! The throat is now so tight that some singers deliberately put a 'wiggle' (a tremolo or wobble) in the throat in order to get the tone to, at least, have an artificial vibrato in the straight, constricted sound! It is a comedy of errors with one mistake requiring another mistake. The Germans call it a 'Teufelskreis' (a 'Devil's Circle').

The comedy is not so funny when the singer, who had a fantastic natural voice before studying singing, has to give up a promising career after five years. The most beautiful voices are made ugly and ruined by muscular actions in the throat, and the hopes and aspirations for a singing career are ruined very quickly! A few singers are so talented, or have some natural physical development working for them, that they sing for a while in spite of the terrible, muscular, throaty techniques they have learned. These hearty souls may have been competitive swimmers or flautists or wind players or great athletes. Their physical strength and/or abnormal breath development may enable them to sing for a few years before a catastrophic collapse of the voice. Singers that do not have the kind of background that develops an extraordinary strength of the breath are destroyed much sooner by actions in the throat, although they may have originally had very beautiful natural voices.

The Confused Palate

A proper thought, as described by Caruso, Lehmann, and Tetrazzini, will place the inhalation deep into the lower back, causing the **relaxed soft palate** to move in an **upward and forward** direction as **an opposite and equal reaction to the inhalation**. Just inhaling correctly will make unnecessary the need to assist the lifting of the palate! Buddha said: "Right **thinking**, right **doing**, right **being"**. First, you must think the right thing…if you think you must 'lift your palate far up and back', it is going to depress the larynx and pull the resonance out of the mask and place it backward and into the throat cavity, into the lower pharynx. The resonance will be a type of **imploding disturbance of the air in the back of the throat**. Instead of projecting the voice outward into the auditorium through the upper half of the face, the voice is now guttural and resonating backwards! The need to 'focus,' to place the voice into the nasal cavity, becomes the only way to **imitate** an 'operatic' sound. A genuine, open-throated sound was made impossible the moment the palate was lifted mechanically up and back.

Beneficial Thoughts

Singers must think thoughts that will move the mind in ways that are beneficial to singing. There are rules to follow, if not from tradition and proven knowledge, then from the logic and talent of the individual singer. How can it be correct to create artificial spaces using tension in the soft palate and the tongue? If a voice is ruined, is it the bad teacher's fault or the stupid student's fault? Would a good teacher say to a student, "I want you to **make tension in your throat and then sing nasally**"? Would a smart student accept such advice? What should a student do if a teacher asks for techniques that defy all logic and literally create tension? One teacher actually had singers holding pieces of candy in a cup formed (by muscles and tension) in the middle of the tongue while singing! Luisa Tetrazzini said: "…the tongue can literally be a stumbling block for the voice." Can you imagine what a stumbling block the muscular action of 'cupping' the tongue can be, not to mention the 'Butterfinger'? Another teacher likes the 'ski-slope' shaped tongue, asking for a raised 'hump' in the middle of the muscle in the mouth (the tongue) that extends down into the throat! This approach straightens the vibrato into a 'straight' (still) tone and then the teacher asks for a 'created' vibrato! Can you imagine that students accept this drivel as the 'path to artistic singing'?

And if the singer instinctively begins to breathe deeply in order to reliever tension caused by the teacher's pompous stupidity, he criticizes the singer for using a 'fake' breath! Woe unto you, oh stupid, untalented singers. You will never sing well or have a singing career, and your voice will not be able to stand such abuse for very long. It is only a matter of time until something goes haywire. Usually, it is a damaged nerve in a vocal fold, or the voice simply gets so tight that the range of the voice begins to shorten and the high notes are no more. If you do manage to find a vocal technique that saves the voice, and a career happens, that lousy disciple of wrong-headed singing will be the first to claim title to you as 'one of his students'.

Caruso's breathing method agreed with Lilli Lehmann's when he said to "draw the abdomen in when you inhale and do a contrary motion when you sing." This breathing method **relaxes the throat and tongue and jaw, opens the epiglottis, raises the soft palate up and forward, lowers the larynx, and creates the 'stai' form in the back of the throat** (as described by Lamperti), causing no reaction in the 'appoggio' that will interfere with the control of the breath and the emission of the voice. The voice remains free because the throat, tongue and jaw are free. The essential parts of the vocal puzzle responsible for phonation of the vowel and the free passage of the resonance through the throat and into the head are unencumbered by muscular action or reaction. It is obvious that Caruso was thinking specific thoughts at all times while singing, and everything was based on his breathing method. In his small book, he mentions breathing sixty (60) times!

The Sequential Thought Process

Caruso practiced a sequential thought process that can be laid out in a numbered order.

1. His mind moved to his abdomen and he pulled it in while inhaling 'massively' down into the lower ribs in his back. At the same time, he raised his chest (establishing the 'sternal arch'). In his book he called for "…the massive respiration required for great singing".

This breathing technique causes the soft palate to rise **upward and forward as an opposite and equal reaction** while leaving it soft and pliable. It causes the **front of the tongue** to remain soft and free to articulate consonants without unnecessary tension by 'flipping' up and down between the lower lip and the tips of the upper front teeth. The larynx and the **back of the tongue** are drawn downward as a **reaction** to the deep inhalation into the lower back. The front of the tongue is kept in contact with the entire lower lip, from corner to corner, when not articulating a dental consonant. The powerful, silent inhalation through the nose causes the **epiglottis to open** completely. The bright 'ah' vowel

as in the Italian word 'stai' is formed (Marcella Sembrich called it the 'oval lying on its side'), starting at the mouth by pulling the corners of the mouth back extremely until the lower jaw is 'unhinged' from the skull, and continuing the phonation process by inhaling the form of the 'ah' deep into the lower pharynx. ('Rosa Ponselle said that Caruso told her 'to keep a rectangle in the back of her neck while singing'). The jaw is completely released and relaxed, hanging down and unhinged. It is never opened vertically by using muscular action.

This combination of reactions to deep breathing is the definition of the **open throat** in the Italian School of Bel Canto singing.

2. Lilli Lehmann's method of breathing was very similar to that of Caruso. She used a mental command called the 'breath jerk' (Der Atemzug) while inhaling. She described it as a "…sudden **inward** pull of the abdomen an instant before the inhalation, and a deep sucking in of the breath into the lower ribs in the back." She mentions in her book that, when inhaling in this fashion, "…the back wall of the nose moves forward" and "…the soft palate moves **up and forward**" at the same moment". Singers can experience the 'forward movement of the back of the nose' by alternating the words 'mom' and 'bob'. The 'mmm' will require that the nose is open and the 'bbbb' will require that the back wall of the nose move forward in order to close the nose for the 'b'. The same movement of the back wall of the nose happens when changing from the consonant 'nnnn' to the consonant 'ddd'. It is, of course, impossible to sustain a 'b' or a 'd' because the nose is suddenly closed. Alternating 'mmm' and 'bbb' will make the singer aware of the forward movement of the 'back wall of the nose' as the 'bbb' is pronounced. According to Lehmann, the nose should never be open while singing, except to make the consonants 'n', 'm', and 'ng'. Caruso simply said to "never sing into the nasal cavity". His method of inhalation made certain that his nose was sealed off at all times while singing.
3. Caruso inhaled into his lower back. He said the ribs in the lower back function "like a bellows". They "…**open when**

inhaling and squeeze together when singing". Tetrazzini agreed and said in her book "to place the first drop of breath in the lower rear quadrant of the lungs" and to "fill the lungs with breath from the bottom to the top".

4. Caruso, at the beginning of the sung tone, began a motion that was "contrary" to his method of inhalation. He attacked from the abdomen while letting it relax outward. The lower ribs in the back, having opened extremely due to the 'massive' respiration he advised in his book, began to close at the moment of attack ("squeezing together like a bellows"). The pressure of the breath, following his description of the 'contrary motion', was leaned against the chest. Lehmann, Mattia Battistini and Tetrazzini all agreed that the breath should be leaned ('pressed') against the chest while singing. Tetrazzini recommended that the pressure of the breath be held "against the sternum **at all times"**.
5. Pressure of the breath against the chest was maintained at all times while singing as a control method for retaining the 'superabundance' of breath in the lungs not yet needed for the emission of the tone.
6. The inhalation process (drawing the inhalation downward into the lower back) was repeated between every phrase and before every attack.
7. At the beginning of the next tone or phrase, Caruso 'leaned' the breath (began his 'contrary motion') again. Both Lehmann and Tetrazzini said that they pressed the breath against the chest an instant before the attack of the tone.

This discussion clearly explains the process of sequential mental commands ('movements of the mind') to specific locations in the body in order to coordinate particular breathing functions while singing. These commands are the instigators of the biomechanical processes that produced beautiful, free singing and healthy throats that lasted during long, fantastic careers. This approach is still in use today by a select few singers and has proven to be very successful for generations. I have students who are singing beautifully who have

passed their sixtieth birthdays! I am seventy-three at this writing and I can still sing.

What Do Singers Want to Accomplish?

'Moving the mind' in ways that guarantee a free throat, a large, resonating air-box in the chest, and an uninterrupted emission, has been clearly explained by the greatest singers in history. We have been told **how to inhale** to open the throat and prepare the 'appoggio' by inhaling a certain way, and **how to 'lean' the breath** when ready to sing. Understanding and practicing the mental commands recommended to us by Caruso, Tetrazzini, Lehmann, and Mattia Battistini will allow us to be part of a vocal tradition that has proven to be the best approach to singing ever discovered. The sequential breathing and support process described in their books and in quotes handed down to us from these greatest of all vocal artists, allow a modern singer to sing beautifully and to fulfill the demands of the most difficult vocal music ever written. The 'appoggio' method of singing will help a young singer make the most beautiful sounds his or her voice is capable of making, while, at the same time, avoiding vocal problems and distortions of the throat. The criteria of great singing are fulfilled as the **result of the breathing method** instead of requiring constant compensatory actions in the throat. **No action in the throat** and **no change of emission** become the automatic results of the method of inhalation and the 'appoggio'. I would ask the singers, who want to become wonderful vocalists, to study and research for themselves the quotes, opinions, ideas, and writings of Caruso, Tetrazzini, Lilli Lehmann, Mattia Battistini, Fernando De Lucia, Helge Roswaenge, Marcella Sembrich, Giuseppe De Luca, Lillian Nordica, Maggie Teyte, Lauritz Melchior, Kirsten Flagstad, Zinka Milanov, Richard Tucker, Dame Eva Turner, George London, Rosa Ponselle, Nikolai Ghiarov, Frieda Hempel, Robert Merrill, Frances Alda, and Tito Schipa. Not one of these excellent vocalists ever suggested 'focusing the tone', or reversing the designed, obvious function of a megaphone and speaking into the large end, while expecting the voice to come out of

the small end with a better result (Caruso said to "…**never** sing into the nasal cavity. It is against all the rules

of song."), or 'pushing out the belly when inhaling and pulling it in while singing like a **sleeping** baby." **(Singers are not asleep while singing!)** The 'sleeping baby' method of breathing is exactly the **opposite** of the way the greatest singers recommended that singers should breathe. Caruso, Tetrazzini, Lehmann, Mattia Battistini, Maureen Forrester, and Luciano Pavarotti said to "press the breath **outward** against the lower chest while singing". This method describes exactly the way a **crying baby breathes and supports.** Perhaps teachers and singers should consider the fact that sleeping babies do not breathe the same way they do when they are awake and crying or laughing. The crying/laughing method of support (the outward pressing of the breath against the chest demonstrated by Pavarotti) used by a baby to produce sound when it is **awake** is just as 'natural' as the breathing method a baby uses when it is sleeping and silent.

One thing we know for certain. No great singer ever recommended 'forming a cup in the middle of the tongue', or forming 'ski-slopes' with the tongue by humping it up in the middle', or 'creating parachutes with the soft palate', or 'holding a banana low in the throat', or 'shaking the head to create vibrato in the tone', or to 'squint the eyes while singing and squint them tighter and tighter as the voice ascends into the upper range'. One teacher in Boston taught a nineteen-year-old tenor to use the eyes in the opposite way. "Stretch the eyes open as widely as possible while singing, like an old-fashioned automobile with huge headlights". The great teachers recommended that the mouth open no wider than the width of one finger in the middle range of the voice, and no wider than two fingers in the upper range of the voice. Now a young singer may be told to open the mouth as wide as possible when singing high notes!

No historical singer ever recommended the use of syllables like Gha, ghe, ghee, goh, goo to place the tone against the hard palate. Lilli

Lehmann and Caruso said, "…The voice passes **over** the soft palate and **over** the hard palate." Any kind of action in the throat while singing goes against every piece of advice ever presented to aspiring young singers by great singers. Dame Eva Turner said to sing with the idea that the throat, jaw, and tongue are **'invisible'**. "…The singer should imagine that he or she could pass a hand through the area of the throat and neck while singing and encounter nothing there. The entire throat area must feel as if there is nothing there. The throat, from top to bottom, should feel **invisible**".

"…Pick Up Your Legs and Run Like Hell!"

Ideas and concepts that are different from the advice handed down to us by the greatest singers who ever lived should be avoided at all costs. Olga Ryss, whose teacher at the St. Petersburg Conservatory was a student of G.B. Lamperti, said, "If a teacher or coach says 'focus the tone,' or 'just breathe normally', or 'pucker the lips for 'oh' and 'oo', or 'press the chin down as far as possible, or press the jaw down against the chest, or create vertical shape with the mouth, ' or 'pull the jaw down and pinch the middles of the cheeks or the corners of the mouth together', or 'sing everything through an eeewww form', the singer **should pick up his legs and run like hell**!" Franco Corelli, in a Master Class in New York, said the American singers "…all sing like they are singing through a straw and into the nose. Do they not care if nobody can hear them over the orchestra?" The only singer he liked in that class was Joanna Porackova because "…she sings deep in the body with the throat open and the head faces up to the balcony." She just happened to be one of my students.

Ideas originating with teachers who have never sung and who could never sing will not be accepted by **intelligent, experienced singers.** Singers and teachers have failed to have careers as professional singers because they studied singing with so-called teachers who were never successful performers themselves. It is a case of 'the blind leading the blind'. An old dictum says, "Those who can, do. Those who cannot, teach."

There Are Very Few Great Singers Today

Although it shouldn't be so, there are very few great technical singers in our present era. When Joan Sutherland, one of the best vocal technicians since Luisa Tetrazzini, was asked how she inhaled, she answered, "…I breathe up my rectum". Everyone was scandalized! She didn't care. She could prove that her approach, as strange as it may sound to singers whose psychological orientation is to 'focus' the tone in the nose, was the most amazing vocal method of her generation. She knew that the most important thing in singing was to get the breath down in the lower back and 'stop' it against her chest while singing, which would keep her throat open and completely free of all tension.

When Pavarotti demonstrated his way of supporting the voice, he pointed at his lower chest and **pushed it outward while singing**. The Juilliard teachers, who were teaching the students to push the belly **outward while inhaling** and **to pull it inward while singing**, couldn't accept the fact that their way of teaching breathing and support was **exactly the opposite** from the way Pavarotti and other great singers described the biomechanics of singing. Of course, that means that Pavarotti and the many great singers of the past who breathed and supported the voice with a method exactly like his method were all **wrong**, and the Juilliard voice faculty, made up of a group of failed singers and voice therapists (who were never singers at all), who never learned to sing or had singing careers, were teaching the 'correct' way to sing! None of them have examples of their own singing on **Youtube** for students to hear. Why not? Is it possible that the vocal techniques they are teaching today didn't do the job for them when they were young singers? If not, why not? Could it be that the techniques they learned when they were young were simply wrong in concept and didn't let them sing when applied to their own voices. They rationalized Pavarotti's remarks by saying, "He really doesn't know what he is doing! He is a natural singer." Of course, they failed to mention, that if Pavarotti was a 'natural singer', and singing in some exquisite way considered the **correct**

way by the entire world, his **movement outward** of the diaphragm while singing really was the **correc**t way to sing! And, of course, it proves that the entire Juilliard School faculty was teaching the **opposite** of what is right. I hope that singers and teachers realize that the opposite of what is right is **wrong!**

Belonging to an Elite Group

Singers, who wish to belong to the elite group of vocal artists, who desire to sing beautifully and have long, successful careers as performers, must reject **any ideas and methods that cause action or tension in the throat, tongue, jaw, face or in the tendons and muscles of the neck**. They must try to imagine that physical functions of essential parts of the throat, that are crucial to the biomechanics of great singing, can feel 'invisible' while singing. They must learn to move the mind the way great singers of the past moved their minds. Tetrazzini said to "never get upset. It will stiffen the jaw and singing will be impossible." Thank goodness she wrote her book before the great emotional crisis that ruined her singing. Her book was written while she was still the greatest female vocalist in the world. Ironically, it was a terrible fit of rage that turned into an uncontrollable state of chronic anger that ended her great career. She did not heed her own advice. The hysterical, sustained and unforgiving anger she felt made her jaw and breathing stiff and dominated her mind completely. She suddenly became unable to sing the way she had since childhood. Moving the mind calmly and sequentially became impossible. Tetrazzini had been the greatest female example of the vocal style known as the Bel Canto vocal style since beginning a concert career at the age of five! Both Caruso and Toscannini thought she had the greatest female voice they had ever heard. That is quite a compliment when we consider both men heard Nellie Melba and Rosa Ponselle in their prime, and Toscannini heard Kirsten Flagstad. Tetrazzini proved she had been right all along: Getting upset can ruin a singer, and, in her case, tragically it did. Lamperti said, "…one word can destroy a singer." That is how simple and yet, how fragile it can be to practice perfection.

The Proof is in the Pudding.

It has not been so long ago singers were expected to have had long careers as successful performers before trying to teach singing to beginners. Unfortunately, for the aspiring young vocal artists of today, politics, connections, marketing, and academic degrees decide which teachers are the most famous. The proof is no longer in the pudding, **except in the negative sense**. There is plenty of evidence today that the generally accepted approach to singing is wrong: Push the belly outward to inhale, pull the belly inward while singing, 'focus' the tone in the nose, lift the soft palate up and back, push the jaw down vertically, pucker the lips forward, sing with the angle of the head facing down instead of up, create shapes with the tongue by curling it or 'forming' it (the 'ski slope' or the 'cup'), etc. Proof that the Art of Singing is disappearing is to be found in the stiff jaws; the 'cupped' or fluttering tongues, or tongues drawn back into the throat; the depressed jaws pulled down vertically, like the jaw in Munch's painting, 'The Scream'; the tense, muscular throats with tendons and veins showing; the wobbles; the tremolos; the inability to sing staccati; or the inability to sing fast, accurate coloratura **without thinning the sound**; and in the nasal placement and harsh, narrow sounds that do not project over an orchestra. We know something is wrong when American singers need sound enhancement systems while Borodina, Pavarotti, Alfredo Kraus, Dame Joan Sutherland, and Netrebko, and other singers trained outside the U.S., have voices or have had voices that carry over the fullest orchestra into the largest venues beautifully without enhancement. Joanna Porackova, the same soprano Corelli liked in his Master Class, sang "Aida" in Hartford, Conn., at the hockey/basketball arena. The place held 11, 400 seats! Needless to say, Porackova's voice carried beautifully in that space over the full orchestra, without sound enhancement of any kind, and sounded huge when she sang forte and crystal clear when she sang her pianissimo high 'c' in the famous "Nile Aria". We must ask the question. What is being passed off as correct singing? Just ask yourselves, young singers. Do I want to sing in my nose, with my

jaw shaking, with a quivering tongue, with a wobble or tremolo, and be inaudible over an orchestra in a big theater? If singers would use simple logic, they would avoid any teacher whose students suffer from these problems, and any teacher who recommends thoughts and actions that depart from the advice of the great singers of the past. And if the teachers used simple logic, they would not teach young singers to do things in their throats and with their breathing that result in destructive vocal problems.

I hope singers and teachers will consider what is discussed here. We would all love to hear a fantastic young singer appear on the scene who did not exhibit any of the faults described above. I'll be one of the first to buy tickets if it happens. It may be YOU!

Breathmaster:
An insight into the Biomechanics of Great Singing

Chi sa respirare, sa cantare.
"Who knows how to breathe, knows how to sing."
Traditional Italian Maxim
Attributed to Maria Celloni, 1810

On my seventy-first birthday March 15, 2009, I decided to write down for posterity an in-depth record of the biomechanical and psychomotor processes I have studied, compiled, tested and implemented over a 50-year period as professional singer, voice teacher and coach. This long experience has given me many opportunities to learn the essentials of breath development, beauty of tone, stamina, health and longevity of the singing voice. I have given this project a great deal of thought since the first serious opportunity arose to have a book published on this subject in 1980.

"Train the body and the mind will follow…"

One of the problems in writing down all of this information has been to sort out the useful knowledge from the useless knowledge. In order to do this, I have had to find out, objectively, what I have learned that is useful to someone else and what is useful to me in my capacity as teacher, advisor and mentor. Some of what I learned was useful to me as a singer and only to me. Why? Because every voice is unique and every singer is unique. Each singer is made up of a unique combination of anatomy; conditioning; chemistry; strength; natural breath capacity (as opposed to developed breath capacity); musicality; psychological health, and physical health. A teacher must be aware of this dynamic and be able to approach each student on an

individual basis. Singing is a talent and cannot be learned or taught. It is important to understand the singer who possesses the ability to match pitches with the voice has a natural talent. The singer must learn the criteria that are required of great singing.

"Train the body and the mind will follow…"
The Buddha Martial Arts Maxim

<u>One thing is absolutely clear and applicable to all singers:</u>
The foundation on which all great singing is built is the correct breathing method, the inhalation, posture and exhalation of the breath. This psychomotor system response and biomechanical process must be repeated correctly under expert supervision until the body responds habitually to the correct, healthy, muscular coordination of the breathing function. Remember: **Ritual eliminates choice**. Through repetition, the body integrates the pathways that are correct and eliminates, if incorrect pathways have already been created (bad habits), those that are damaging to good singing and cause physical damage to the vocal cords.

"In fact, all bad habits of the throat are merely efforts of protection against clumsy management of the breath. Faulty singing is caused by awkward respiration...
The foundation of all vocal study lies in the control of the breath."[1]

"The precept 'breathe low' means control the breathing low in the body. In passing from low to high tones, the breath must take the opposite direction of the voice."[2]

"The stroke of the glottis (violent attack) which many singing teachers advise is absolutely harmful to the voice."[3]

"It is the training of the middle voice that brings the beautiful head voice."[4]

"It is indispensible, for the singer, to properly take and control the inhalation and exhalation of his breath; for breathing is, so to speak, the regulator of singing."[5]

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[1] Giovanni Battista Lamperti (1839-1910). *Vocal Wisdom* (New York: Taplinger), 1931/1957: 5,13
[2] Ibid; p.42
[3] Ibid; p. 6
[4] G.B. Lamperti. *Vocal Wisdom* (New York: Taplinger), 1957: 137

"The lungs and diaphragm and the whole breathing apparatus must be understood by the singer, because the foundation of singing is breathing and breath control…A singer must be able to rely on his/her breath, just as he/she relies upon the solidity of the ground beneath his/her feet."[6]

The first two rules of the historical Bel Canto era of singing [7](approx. 1820-1920) are **no action in the throat** and **no change of emission**. Every singer of the golden age of beautiful singing who wrote a book about their approach to the production of the singing tone, repeatedly emphasizes the importance of the relaxed, totally free throat and proper breathing techniques which permit the throat, tongue and facial muscles to remain free. Professional singers are expected to be able to fulfill the requirements of the operatic repertoire (and great cantorial repertoire), genre(s) of vocal music that require, by their nature, beauty of tone, projection, flexibility, range, emotional expression, vocal stamina and vocal longevity. At one point in his book, Enrico Caruso (1873-1921) refers to the "….massive breathing essential to good singing."[8]

A list of these singing authors includes Enrico Caruso, Luisa Tetrazzini (1871-1940), Lilli Lehmann (1848-1929) and Lillian Nordica (1857-1914).
I recommend that singers read as much material as possible about the vocal methods of these artists, especially the books written by the artists themselves.
It seems obvious, therefore, in order for the throat to remain free while singing or speaking, action must happen elsewhere in the body. It is this process and the combined activities of the muscles of the body and the breathing system that we will explore, and hopefully, begin to understand and practice correctly.

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[5] Manuel Garcia II. A *Complete Treatise on the Art of Singing, Part I* (New York: DaCapo Press), 1984: 45

A Note: Manuel Garcia II is credited with the invention of the Laryngoscope in 1854.

[6] Luisa Tetrazzini. *The Art of Singing* (New York: Dover edition) 1975: 11

[7] A Note of interest: The" reign" of Sir Rudolph Bing at the Metropolitan Opera from 1950 to 1972 is considered by avid opera fans to have been the second Golden Age of Bel Canto.

[8] Enrico Caruso.*The Art of Singing* (New York edition: Dover) 1975: 46

"In comparing books on Bel Canto singing, one is convinced there was at that time a traditional way one learned to sing, an aesthetic one recognized and strived to attain, to the best of one's ability. It is no accident that the era of Bel Canto and the Golden Age of hassanut followed each other historically. One wonders what conditions were present that allowed this to happen; that such marvelous singing should thrive sequentially in two different worlds of expression: in the world of Italian opera and the world of synagogue prayer."[9]

The ability to "know what is good for you" is so rare among singers that it is often never discussed at all. It does not occur to many coaches and teachers to even broach the subject. Yet, when the historical baritone Robert Merrill (1917-2004) presented a Master Class for singers during my summer opera program at Sarah Lawrence College in 1978, he answered this question very succinctly. During the question and answer period following the Master Class, a young singer asked Mr. Merrill what the most important consideration wa`\in order to make a professional career. He answered: "You have to have the talent, gift or intelligence to know what is good for you specifically. You have to be able to run everything through your mind…you will hear a lot of nonsense and garbage, most of which, if you followed the advice given, would eventually ruin your voice!" Mr. Merrill's insight brings to mind Mahatma Gandhi's famous quotation: "It is because we have at the present moment everybody claiming their own right of conscience without going through any discipline whatsoever, and there is so much untruth being delivered to a bewildered world."[10] There will be a few people you meet who may have some good advice for you, but the thing to remember is that everyone you meet has an opinion!

"To be a person of truth, to be swayed neither by approval nor disapproval...
Work at not needing approval from anyone and you will be free to be who you really are."[11]

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[9]Cantor Pamela Kordan Trimble. "Kol Hazzanit: Alternatives to the Vocal Requirements and Expression Of Traditional Hazzanute for Women Cantors,"*Journal of Synagogue Music, Vol.32* (New York: Cantors Assembly,), 1972: 105

[10]R.K. Prabhu & U.R. Rao, editors. *The Mind of Mahatma Gandhi* (India: Jitendra T.Desai,Navajivan Trust), 1945/1967/1996: 42

[11]Rebbe Nachman of Breslov. The Empty Chair (Vermont: Jewish Lights Publishing), 2009: 78

You will hear…"I think the tone is too bright….I think the tone is too dark….I think it should be more accented….I think it should be smoother, etc." One hundred people in a room will give you one hundred different opinions. Which ones do you listen to and which (most, if not all) do you ignore? Most professional singers end up listening to no one. If a singer is lucky, as Robert Merrill was, he or she finds one great teacher/mentor and listens only to the advice of that individual. Mr. Merrill studied with Samuel Margolis (1883-1982) for over forty years. (Mr. Margolis was also the teacher of Jerome Hines). In the end, the singer stands alone on the stage and will take the credit, blame or criticism for his or her performance.

"It is not everyone that can be taught to sing, even granting an exceptional gift of voice. To become a singer is impossible if you have no ear, for no mathematical combination will put that into you. Time and rhythm cannot be taught; if you do not possess them as natural gifts you cannot acquire them. They are things to be developed, not learned….Good physique is absolutely necessary to the singer; a great singer is, of necessity, strong bodily. A nervous person should not attempt to become a singer, for here again, is an insurmountable handicap. Regular digestion is absolutely essential to good voice, and a repeated course of medicine to stimulate it will only add to the intervals of physical inability to sing."[12]

I have helped countless singers over the years find and "re-find" their voices. Singers of all ages and all stages of development have been coming to me since 1959, desperately looking for help with their voices. What did I know when I was 21 years old? What could I "know" at that age? Something…very little …intuitive maybe…but I already knew something. I did seem to possess some kind of knack or talent for teaching: The ability to impart information clearly, and, also, an ability to empathize physically with what the singer was doing or not doing in the throat and in the breathing system that either helped or hurt the quality of sound the singer was producing. This ability permitted me to actually help singers with general and specific problems. For instance, it seemed obvious to me that a singer should not have to make faces to sing well. How could a singer act, smile, cry, look surprised, etc. if the face was always locked in a grimace, or having to show all the teeth, or having to pull the jaw down? If singers look at the pictures of Enrico Caruso demonstrating

[12] Lillian Nordica. *Hints to Singers* (New York: Dover) 1998: 29-30

the vowels in Dr. P. Mario Marafiotti's book, **Caruso's Method of Voice Production**[13], they will see great emphasis on softness and relaxation of the facial muscles, the corners of the mouth always pulled back (even on the oo vowel). There is not one vowel that is formed with the jaw pulled down!

Photo by Bettini Syndicate Inc. FIG. 25—VOWEL A

In this illustration the great tenor is singing the vowel A, with very dramatic expression. Note how wide his mouth is open, while his lips are completely relaxed, and his tongue lies flat on the floor of the mouth, its tip in contact with the interior of the lower lip.

[13] P. Mario Marafioti. *Caruso's Method of voice Production* (Dover, New York),1949: 243-247

Photo by Bettini Syndicate, Inc.

FIG. 26.—VOWEL E

This illustration shows Caruso singing the vowel E, with lyric expression. The mouth is half open when compared with the size of the vowel A. Note the marked relaxation of the masque and tongue which, as in A, is in contact with the interior of the lower lip.

Photo by Bettini Syndicate, Inc.

FIG. 27.—VOWEL I

In this illustration Caruso is seen singing the vowel I. Besides the relaxation of the masque, as in the vowels A and E, and its characteristic expression which makes it almost evident where the focus of the voice is centered, his lips approach without the slightest evidence of tension.

Photo by Bettini Syndicate, Inc.

FIG. 28.—VOWEL O

This illustration shows Caruso singing the vowel O. The prominent feature lies in the shape of the lips, which are protruded, making a megaphone for the vowel. The lips, however, are in complete relaxation.

Photo by Bettini Syndicate, Inc.

FIG. 29.—VOWEL U

This illustration shows Caruso singing the vowel U. In this vowel the prominent rôle is played by the lips, which by protruding markedly give the shape to the vowel U.

The American dramatic soprano Rosa Ponselle (1887-1981) said (during a radio interview I listened to in the 1960's) Enrico Caruso told her to always keep a "rectangle" in the back of her throat. That is the same shape Giovanni Battista Lamperti recommended while insisting that the open throat in Italian singing was the same shape as the "ah" in the Italian word "stai".[14]

A singer should have a loose jaw, a relaxed tongue and a breathing method that releases tension instead of creating tension. Tension and relaxation are words that must be carefully defined in any type of

[14]G.B. Lamperti. *Vocal Wisdom* (New York: Taplinger), 1931: 132

physical skill. There must be a balance of tension and relaxation somewhere in the body, of course. The singer must learn to use only the essential muscle groups at the correct time, as one unit (this is the biomechanical function that becomes habitual with proper training), necessary to produce a free and healthy tone, relative to the individual's vocal potential and at that particular moment in each singer's development.

One of the reasons I am able to help and have the patience necessary to re-train singers with damaged vocal cords is that I was and still am totally fascinated with the idea that human beings can use their voices to create extraordinary musical sounds combined with emotional expression. The basic musical scales and various exercises never, for an instant, bore me. I find the process challenging:
It requires intense concentration, physical development and dedication by both teacher and student. Repetition of correct function under expert supervision is essential to incorporate the physical concepts into a singer's working technique as quickly as possible. I can still sit at the piano, day after day, playing the same simple scales and feel the way a prospector or treasure hunter must feel during the search. As the singer achieves looseness of the tongue and throat, first a little gold dust, then a few nuggets and signs of beauty of tone begins to appear or reappear. The excitement I feel as a teacher must be similar to the prospector who first finds gold dust. Somewhere beneath the dust are the nuggets and then, with enough digging, the mother lode!

Wilbur Gould, MD (1919-1994) was world renowned as the great throat specialist for professional singers. He was Chief of Otolaryngology at Lenox Hill Hospital, New York City. Throughout my teaching years in NYC, 1973-1994, Dr. Gould sent professional, working singers with vocal cord problems and damage to me for rehabilitation before he would schedule surgery. He was a colleague and wonderful, caring human being. He always encouraged the singers to take the time necessary to correct vocal breathing techniques and avoid surgery. If surgery was necessary, Dr. Gould sent the singers to me for vocal rehabilitation after the vocal cords had healed properly.

"If you have built castles in the air, your work need not be lost; that is where they should be. Now put the foundations under them."

Henry David Thoreau, *Walden*

"Breath must be a year in advance of the voice."[15]

Down to Basics

The essential blocks that are integral to my teaching are a result of many influences, including the encounters and friendships I nurtured with great singers during my developmental and professional years as an operatic tenor. From 1960 through 1975, I met, sang for, and took lessons and coachings with a number of historical singers. My great friend, Lawrence Shadur (1935-1991), a wonderful baritone with the Metropolitan Opera, was Lauritz Melchior's Godson. Through Larry I had the opportunity to meet Lauritz Melchior (1890-1972) and the great Richard Tucker (1913-1975). Trying to find out the technical secrets from these historical singers was like studying with the Zen master described in Eugen Herrigel's book, **Zen in the Art of Archery.**[16] I was young and full of enthusiasm then and the advice given by these legendary singers seemed so vague and undefined. The management and/or use of the breath, however, were the root of all discussion. When I sang for Richard Tucker for the first time, the first words out of his mouth were "...get a good breath under that". "How?"

I asked. "What should I do?" Richard Tucker was the master technician, the tenor's tenor (because of his great technique). He could sing everything from Mozart to Verdi, and beautifully. My favorite roles he sang were from **La forza del destino, Ballo in maschera** and **Vespri siciliani**. He was the best Verdi tenor I ever heard. (Of course, I loved his "**Cosi fan tutte**", also).

At a later coaching, Mr. Tucker said: "I've only got two things to tell you, kid. Breathe behind you and keep it light, like this…." He then proceeded to demonstrate a gigantic, thrilling, free high note that seemed to threaten the layers of paint on the walls. I was sure the rafters would come down from the incredible vibrations bouncing off

[15]G.B. Lamperti. *Vocal Wisdom* (New York: Taplinger), 1931: 142

[16]Eugen Herrigel. *Zen in the Art of Archery* (New York: Vintage Spiritual Classics), 1989

the walls and off my head. When the tone ended, Mr. Tucker said, "See what I mean? Always keep it light. It is all done by the breath and not with the vocal cords". I'll never forget that day! It was 1962, I was a 24 year old lyric tenor with great promise. After a few months of study, Mr. Tucker said: "Too bad Paul Althouse (1889-1954) died…(Mr. Tucker's only teacher). He could have helped you." Mr. Tucker repeatedly said: "Breathe in your lower back and don't let the belly wall or the chest move at all, especially on the attack". This was the same approach to breath control I received in conversations with Cantor Charles Bloch in New York and with Cantor Irving Bushman in Cleveland (I was Chairman of Vocal Studies at the Cleveland Institute of Music where Cantor Irving Bushman was teaching), both beautiful singers who had very long careers.

Great singers echo again and again the same approach to breath control. The following quotations are taken from the writings of Enrico Caruso, Luisa Tetrazzini and Lilli Lehman:

"To take a full breath properly the chest must be raised at the moment that the abdomen sinks in. Then with a gradual expulsion of the breath, a contrary movement takes place. It is this ability to take in an adequate supply of breath and to retain it until required that makes or, by contrary, mars all singing…this art of respiration, once acquired, the student has gone a considerable step on the road to Parnassus. "[17]

"In order to insure proper breathing capacity it is understood that the clothing must be absolutely loose around the chest and also across the lower part of the back, for one should breathe with the back of the lungs as well as with the front, upper part of the lungs…In learning to breathe it is well to think of the lungs as empty sacks, into which the air is dropping like a weight, so that you think first of filling the bottom of your lungs, then the middle part, and so on until no more air can be inhaled."[18]

"In order to have the throat perfectly open it is necessary to have the jaw absolutely relaxed."[19]

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[17] Enrico Caruso. The Art of Singing (New York: Dover edition), 1975: 53-54
First Publication by The Metropolitan Co. 1909

[18] Luisa Tetrazzini. The Art of Singing (New York: Dover edition) 1975: 11-12
First Publication by The Metropolitan Co. 1909

[19] Ibid. p. 23

"This feeling of singing against the chest with the weight of air pressing up against it is known as breath support, in Italian we have even a better word, 'appoggio', which is the breath prop or lean…Never for a moment sing without this appoggio, this breath prop. Its development and its constant use mean the restoration of sick or fatigued voices and the prolonging of all one's vocal powers."[20]

"I learned this: To draw in the abdomen, raise the chest and hold the breath in it by the aid of the ribs; in letting out the breath gradually to relax the abdomen…A horn player in Berlin with the power of holding a very long breath, once told me, in answer to a question, that he drew in his abdomen very strongly, but immediately relaxed his abdomen again as soon as he began to play. I tried the same thing with the best results."[21]

"The breath pressure, which includes abdomen, diaphragm and chest muscles, is often named 'Atemstauen' (breath stop) or 'appoggio', the 'breath lean' or 'breath prop'".[22]

We really need to discuss the singing methods that have been successful for singers who have had long careers without vocal problems. Giovanni Lamperti said that all success and all vocal problems are a result of the management or mismanagement of the breath. Lilli Lehman called her control concept the "breath stop". Breathiness is considered bad in classical singing and it can cause many vocal problems like hoarseness, nodules, bowed vocal cords, etc. It should be understood that any excess of breath, especially under pressure, can be disastrous for the vocal cords.

I met the great tenor Giovanni Martinelli at the Metropolitan Opera in 1961. He was seventy-seven years old at the time and still singing! I, of course, asked him what his ideas were about how to sing. He answered very energetically, "primo respirare (first breathe), poi appoggiare (then lean)". I asked: "How should I breathe?" He grabbed my lower ribs in the back and said: "Qui, qui e profondo (here, here, and deeply)".

I heard Lauritz Melchior sing a concert when he was seventy years old.

[20] Ibid. p. 15-16
[21] Lilli Lehman. How to Sing (New York: MacMillan), 1949:14
[22] Ibid. p. 23

His voice was still clear, strong and remarkably youthful. When I asked him to describe his singing technique, he began to explain how he breathed. It is always the same story. Breathe into the lower back, lean on the diaphragm, never sing into the nose. Let the breath open the throat. No action in the throat, only reaction to the low back breathing.

George London (1920-1985), with whom I had a wonderful working relationship, said to me "…the ribcage should not move independently. The ribs move only if the breath moves them". He called the process "the machine" and said to me many times, "…Mike, make the students work the machine. Open the back, close the back, repeatedly!" There were many instances during those years when I would ask singers how they sang. Cesare Siepi (1923 -) and Cornell MacNeill (1922-) would not say a word about technique. Jan Peerce (1904-1984) said "…don't move anything in the front of your body when you breathe or sing".

Dame Eva Turner (1892-1990) was the only singer I ever met who used the term "psychomotor system". She said (in 1962, long before computers were so common. We sat down together and talked about vocal technique.) "The mind must be programmed through repetition to do the right thing as a habit, thus training the psychomotor system to sing for you". "How and what must I repeat over and over, Dame Eva", I asked. Again I heard those magic words…"breathe, breathe, breathe and NO ACTION IN THE THROAT! "The next thing she said has stayed with me for decades…."even a grain of salt or sugar dropped in the throat would be TOO MUCH ACTION".

"Leave your voice alone, and train your breath."[23]

<u>In summary to this point</u>:

[23] G.B. Lamperti. *Vocal Wisdom* (New York: Taplinger), 1931: 142

Breathe into the lower back, either drawing the abdomen in or not allowing the belly to move outward (to remain still), thus sending the inspiration toward the back, into the lower portion of the lungs. Make no action in the throat or jaw or tongue (the invisible throat, the invisible jaw, the invisible tongue, as if you could pass you hand through them, as if nothing were there).

Only the tip of the tongue should be allowed to move to make the dental consonants, which is an up and down movement that does not react in the throat. No forward or backward movement of the tongue is allowed. Do not pull the tongue back into the throat (no action in the tongue or throat). Breathe in a way that relaxes the throat, much like yoga breathing. Robert Merrill and Helge Roswaenge (1897-1972) were advanced yoga practitioners and when asked how to breathe, they both demonstrated deep, slow, low back yoga breathing. Strong yoga breathing, like any strong form of back breathing, causes a completely relaxed tongue, allowing the tongue to depress in the back using only the power of the inhalation and thus creating a v-shaped groove down the center of the tongue (sometimes called "inhaling the tongue"). This type of breathing will also cause the soft palate to rise in an upward and forward direction (read Lilli Lehmann's book **How to Sing [24])**. This action will seal off the nasopharynx, creating a resonating cavity behind the nose. This is the resonance referred to as "the mask". **Singing in "the mask" is different from singing in the nose.** If the singer sings "NG" as in the word "hung", a resonance line can be identified across the bridge of the nose.

"Never sing into the nasal cavity—it is against all the rules of song. There are a number of wrong sorts of voices, which should be mentioned to be shunned…the white voice, the throaty voice, the breathy voice, the nasal voice and the bleat (goat voice). …After all, however, those who have practiced the art of right breathing need have none of the defects mentioned above."[25]

The singer must avoid placing the voice into the hung line. Below the hung line causes the voice to resonate in the throat cavity and

[24] Lilli Lehman, *How to Sing* (New York: MacMillan), 1949
[25] Enrico Caruso, *The Art of Singing* (New York: Dover edition), 1975: 57-58

bring up a predominant chest resonance into the tone which has no carrying power over an orchestra. The true mask is found over the hung line. If a singer wishes to direct the voice by singing into the mask, every tone and every vowel must be placed over the hung line. This would explain why both Jussi Bjoerling (1911-1960) and Zinka Milanov (1906-1989) insisted that young singers practice holding the nose closed with the fingers to make sure that no tones escaped into the hung line, thereby eliminating nasality.

Leonard Warren (1911-1960) used to vocalize using the "B" consonant. We could hear him backstage at the met singing "bah, beh, bee, boh, boo, and blah, bleh, blee, bloh, bloo. Vocalizing on the consonant "B" causes the nose to close (as opposed to the consonant "M" which opens the nose). The students called him "The Genie" because he "lived in a bottle". (He sounded so stopped up!)

Joan Sutherland (1926-2010) and Luciano Pavarotti (1935-2007) leaned forward while singing, as did tenor Jan Kiepura (1902-1966), keeping the chest out, keeping it still and not allowing the resonating breath of the chest to collapse. Tenor Benjamino Gigli (1890-1957) also kept the chest high and out while singing.

So, why should the young singers today be required to vocalize using an "M" instead of a "B"? The "M": opens the nose, placing the voice into the hung line thus creating nasality. "B" as in "Bob" places the voice over the hung line and into the "true mask". According to a long list of great singers, the "M" is to be avoided as much as possible. All of this discussion could be eliminated if the singers would go back to the old, proven system of breathing and/or learn yoga breathing. The soft palate will automatically find its correct function and position. One of my students counted the number of times Enrico Caruso mentioned breathing in his book. The count was 60 times! Considering the small size of the book, Caruso was obsessed with "the art of right breathing"[26].

[26] Ibid. p.58

It seems strange that singers don't avail themselves of books written by great singers of the past. Both Enrico Caruso and Lilli Lehman described their breathing function very clearly. Quotations from both of their books are noted above. The abdomen should be drawn in while inhaling and let out while singing. Caruso said to draw the abdomen in while inhaling and do a contrary motion while singing. Lilli Lehman described the "breath jerk", a deliberate violent jerking in of the abdomen when inhaling.

My wife and I interviewed Dr. Maurice Sheetz. At that time he was a Pulmonary and Critical Care Medicine Fellow at St Luke's/Roosevelt Hospital in New York City. I asked him what he thought about the type of breathing technique that Caruso, Tetrazzini and Lehman describe in their books. Why would these great historical singers develop a breathing technique (the inhalation and exhalation of the breath/appoggio, etc.) in a manner opposite to what is being taught to our young singers in universities and music conservatories of today?
Dr. Sheetz's response amazed me in its directness and lack of delay. He said that it was obvious that Caruso, Tetrazzini and Lehman wanted to force the back half of the diaphragm down, thus increasing the breath capacity to almost double the amount that is achieved by letting the belly go out while inhaling. Dr.Sheetz went on to say:
"It is like saying that at one end of your body you've this tremendous pressure of breath against your sternum, but at the same time you are learning to relax the muscles from the neck up…There are these little muscles that surround the vocal cords, the ones in the back that change the length and tension of your cords are called the Arytenoids. What happens is that you build up pressure against your sternum; then you have to learn how to relax the muscles surrounding the vocal cords so that you can open your throat and at the same time slowly release some of the pressure, not all of the expiration, directly against your vocal cords. It is analogous to banking a pool ball off a side cushion instead of going directly through; you divert that air so that it goes through in a controlled amount, as little as possible."

I asked him about so called natural breathing…the sleeping baby breathing, for instance. He said that babies breathe one way when they sleep and the opposite way when crying or laughing. The belly out while inhaling and belly in while exhaling is natural when not making a sound. But when a baby begins to sustain sound by crying or making separated sounds while laughing, the belly definitely goes out while sound is being produced. So, I asked why Tetrazzini said she kept the pressure against the chest at all times. Again the pulmonologist said it was very obvious that the continuation of sound required a continuation of control of the diaphragmatic tension in order to prevent the breath from coming into the throat and flooding the vocal cords with more air than can be utilized while singing or speaking. Dr. Sheetz described this function as "… a controlled expiration of the breath against a closed glottis." Apparently, the front of the diaphragm must remain still while the back of the diaphragm gradually relaxes. This allows the amount of air that can be utilized by the vibration of the vocal cords to be sent by the lower ribs to the larynx. This would explain why Enrico Caruso described the action of the lower ribs in the back as resembling a bellows…opening while breathing in and closing (squeezing) while singing.[27]

Youtube is a fantastic resource for all singers now because we are able to hear and in some cases actually watch many of the great historical singers perform and see what they are doing with their bodies while singing. Turn on your computer, bring up **Youtube** and listen to the recordings of all the singers mentioned in this article.

Postures While Exercising the Voice

[27] Enrico Caruso, *The Art of Singing* (New York: Dover edition), 1975: 54

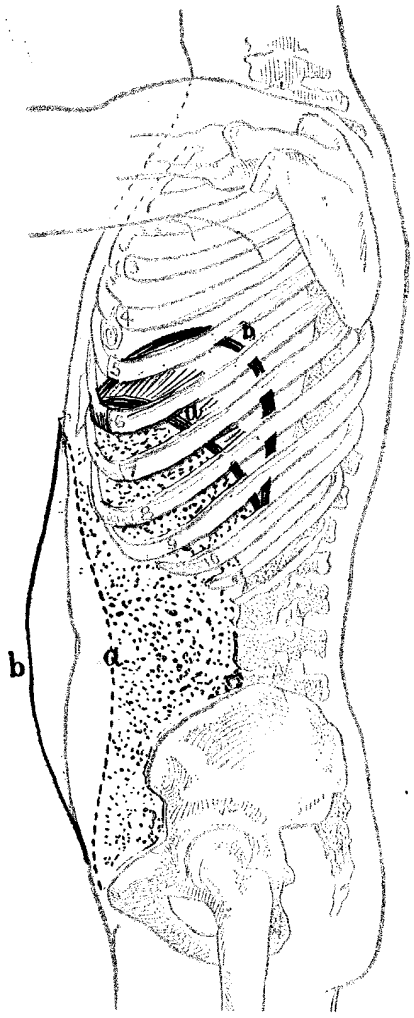
In this article, I am including three postures of the seventeen postures that comprise my "warm-up" method and one 10-count breathing exercise.

Yoga is not essential to good singing. Many singers have had long, successful careers without Yoga. However, nearly everyone would agree that exercise is good. It makes us feel better, and it might help us all sing better! Yoga will definitely develop breathing control and capacity.

Remember: **Ritual eliminates choice**.

As with all physical exercise systems, the person involved is all-important and the exercise should be helpful and not harmful in any way. That is not to say, however, that a little pain is to be avoided! I believe the sports adage goes…no pain, no gain. Almost every physical exercise we begin has some discomfort that is part of the price we pay to get into good physical shape. Every artist must ultimately find his or her way. There is always a threshold of difficulty in everything we aspire to accomplish. The art of singing is fraught with problems and mountains of material that has to be learned. It is up to the individual artist to decide how many languages to learn or how many roles to learn, and how much physical exercise to undertake. I personally recommend that all forms of modern exercise, such as aerobics or weight lifting, be avoided and that a doctor who is familiar with the individual aspirant should approve any form of exercise. If the doctor approves of physical exercise for you, I would recommend that everyone commit themselves to the old exercise systems that have the bugs worked out of them. Yoga and Tai Chi are ancient, as are the other Martial Arts practiced in eastern Asia. Any of these systems taught in a reputable school by a qualified instructor are safe for the practitioner including singers. Running is good for general conditioning but does not seem to increase breath capacity. Yoga, swimming, and playing a wind or brass instrument increase breath capacity dramatically.

1. Diagram of the Action of the Diaphragm



a. Inspiration. *b*. Expiration.

Lamperti, Giovanni Battista, *The Technics of Bel Canto* (New York: G. Schirmer, 1905): 6. (The book is dedicated to his pupil, Marcella Sembrich (1858-1935), who sang regularly at the Metropolitan Opera at the turn of the 20th century and was considered one of the finest coloratura soprano's of her day). Mr. Trimble owns a first edition copy of this book.

Posture #1- Lolling About

(Warning: This exercise should not be used by pregnant women or within 3 months after delivery without physician's approval)**

Source-professional singers and actors

Sit in a large easy chair and lean back all the way. Slide the pelvis forward toward the edge of the seat while leaning the head well back. The neck should be totally relaxed and supported by the high back of the chair, thereby avoiding any form of tension in any part of the neck.

Place both hands on the lower abdomen, right above the pubic bone. Inhale through the nose silently with the lips closed for as long as possible by drawing the abdomen in slowly with the hands pressed against the abdominal wall. The breath should be drawn into the lower rear quadrant of the lungs. Don't worry about the chest at this time. The chest should be very relaxed. Expansion of the chest will be developed through other exercises at a later time. At this stage, we are concerned with the freedom and expansion of the lower back and the lower lungs while maintaining a totally loose throat and neck. Hold the breath for a moment as the lungs are completely filled. There should be no tension in the vocal cords. Avoid the glottal stop. Lilli Lehman, as discussed previously, taught "the breath jerk". This is a sudden jerking in of the lower abdomen at the moment of inhaling. Geraldine Ferrar (1882-1967) used this breathing method, learned from Lilli Lehman, her teacher. Reverse the process by relaxing the belly (abdominal wall) outward, slowly. At this moment, sing a low, comfortable note without any particular criteria in terms of volume or quality, avoiding a glottal stroke or any tension in the throat. Avoid any flexing of the muscles in the abdomen. While sustaining the sung note as the lower belly (abdomen) moves continually outward, use the hands to disturb the tone by moving (shaking or wiggling) the abdominal wall in and out (not up and down) rapidly until a rhythmic disturbance of the sung tone is achieved. It is sometimes better to make a fist with one hand and use the other hand to press it inward. It is important to note that the movement of the fist or hands must be in an inward (towards the spine) direction and outwards (away from the spine) direction, alternating fairly rapidly. As soon as the rapid movement causes an

audible response in the voice, change the tempo of the pulsing with the hands to a slower or faster rhythm, eventually creating a range from slow to a very fast, almost quivering speed and back again to very slowly. The movements should not be vertical (up and down) in relation to the body, but at a 90-degree angle relative to the abdomen. All of this movement should be done while holding a long note in a comfortable part of the voice. The pitch can be lower or higher, and even to the very highest notes of the range, as long as the voice responds and the lower belly remains flexible. It is important that the sound be continuous and not crack or break.

The abdominal wall should be completely loose during inhalation and exhalation. This can be achieved by continually moving (wiggling or shaking) the belly with the hands during inhalation and exhalation.
The object of this exercise is to loosen all tension in the abdomen and throat, and
in the viscera, in general, and to encourage breathing into the lower back. It is not necessary to pull in the abdomen while breathing in (or to use the "breath jerk") if the inhalation sinks deeply into the lower back. However, most singers tend to create tension in the abdomen and all abdominal tension must be eliminated in order to maintain a free throat. Lolling is a loosening and freeing exercise, dedicated to the neutralization of the muscles that affect the throat and the breathing process. It is generally beneficial to the practitioner because it encourages total relaxation in the body and mind while beginning an activation of the breathing process.
If you were taught that the belly or abdomen must be drawn in while exhaling and/or singing and speaking, conflicts can occur if a female singer becomes pregnant. Everyone agrees that women sing better and better when they become pregnant and the larger the fetus becomes, the better the singer sings. She has no choice but to breathe in her back! A pregnant woman who has the nearly impossible task of pulling the belly in while inhaling or singing can get into a state of severe conflict with her voice and diaphragm if she was taught to pull in while exhaling. It is better to do what comes naturally and breathe into the back with the belly hanging out. Let us all learn from Mother Nature! If it were necessary to pull in the belly while

singing, a pregnant woman couldn't sing!! Singers who are not pregnant should practice pulling the abdomen in while inhaling in order to eliminate the possibility of tension in the abdomen. While it

may feel like tension is being created by pulling the abdomen in, an examination using the "shake the lower belly" test will reveal, that although the abdomen is pulled in while breathing, there is no tension (flexing or hardness) in the muscles of the abdominal wall. This is crucial to good singing. Singers who activate abdominal muscles while breathing or singing must compensate by creating an opposite and equal force somewhere else in the body, usually in the throat. Everything we do is done for the purpose of total relaxation of the throat. This exercise is conducive to a very free attitude concerning the quality of the sound and helps the singer to relax.

Posture #5- The Primitive (Campfire) Squat

Source-Anthropology

From a normal standing position, squat down all the way, *with the heels on the floor*. Most adults cannot squat down and keep their heels on the floor the first time they try. However, it can be done, believe it or not! In some cases, it is as difficult as learning to ride a bicycle or learning to ski, because it is all about balancing and *centering*. Every child we see playing in the sand on the beach squats this way…heels down. It will require a lot of practice in some instances, but it is possible to learn to squat correctly. All primitive people squat this way around their campfires. It is the "natural "way to squat, and must be relearned by most modern adults. However, it is essential to proper centering and energy flow and must be learned. It is actually easy for children and some adults.

The mechanics of squatting are simple. From a normal standing position with the arms relaxed and hanging down and the feet apart at shoulder width, bend the knees deeply and completely. It will be necessary to shift the weight forward with the arms well in front of the body as the body goes down. Ideally, the squatter will be able to rock back and forth without a loss of balance. Most people lose their balance and fall backwards. While sometimes a little embarrassing, this is harmless and is a natural part of the learning and adjusting

process, just as falling off the bicycle is part of finding your balance and coordination. Don't give up! Keep trying until you are successful!

Once accomplished, this posture is inducive to the lower back breathing begun in the "Lolling" posture. The dome-like diaphragm should be descending while breathing in and the rear half of the diaphragm should descend to the lowest point possible. It is not enough to depress only the front of the diaphragm. These postures, and the ones described in the following examples, cause the singer or speaker to breathe in a complete way, utilizing the total diaphragmatic function, thus providing a deeper tone and more freedom of the throat, which leads to more control of the voice.

Posture #11-The Tree

Source-yoga

Stand up on the right foot with the leg straight, Take the left foot and turn it upside down so the sole of the foot is facing upwards. Pull the heel of the left foot back into the crotch until the heel is well back and against the inside of the upper right thigh. Press the knife-edge (the outside edge) of the left foot against the inside of the right thigh, high up, and let the left, bent leg rest against the opposite (right) thigh.

Raise the arms and touch the fingertips together above the head. Be sure that the space formed around the head is as equal as possible. Allow the arms to relax without losing their posture above the head. The elbows will move slightly forward. The shoulders should be as loose as possible and the entire body should feel as soft and relaxed as possible without compromising the perfection of the posture.

Up to this point we have concentrated on "floor" postures, with much bending forward and backward. Now we are standing up (one of the "standing" group of postures) and straightening the body. The breathing should continue to be very deep and directed toward the tailbone and buttocks. The abdomen should be
drawn inward during the inhalation and released outward during the exhalation. This is a very good posture to begin octave exercises from a very low note. The body should remain free and the singing should not cause any loss of balance or any loss of the correctness of the posture.

One of the rules of the "posture system in singing" is that, once a posture is established, the singing should not cause any lack of balance or any change in the perfection of the posture.
This posture is the first and only one that is dedicated to the development of the pure, vertical *lean.* This is the posture that best develops the "brick in the bucket" concept of a straight-down, vertical drop of the breath down into the pelvic floor with nothing to hold it down but gravity "Bouncing" is discussed in my book on vocal technique, which, also, develops the vertical concept of the drop of the breath. However, it is not really a posture, but an action technique.
The main thing to remember with the tree is that we are not floating away into space. Gravity is all we need to hold us down on the earth. Therefore, it makes sense that gravity can hold the breath, viscera, and diaphragm down if we can relax and allow it to happen. This is the secret of those obese singers who seem to sing so beautifully without the problems and tendencies that seem to plague most singers. We know that obese singers who lose a lot of weight invariably develop vocal problems. Some are very famous, magnificent singers who lost control of their voices after losing enormous amounts of weight, sometimes over 100lbs. Having been obese since childhood and having relied on the weight to keep the breath dropped down in the lower body, when the loss of the extreme downward pull was no longer there, the singers developed huge wobbles and the voices became hard and strident. The breath is no longer held down deep in the body by the weight carried in the abdomen.
This loss of control can be corrected after a severe diet by teaching the singer how to get the breath down again. By exercising, through Yoga posturing and consciously thinking "deep", the concept of where to place the breath in the body can be relearned. In this posture, the feeling of heaviness and weight are all-important. The voice itself seems to drop down into the body, as if each tone weighs several pounds and is sitting right in the center of the floor of the pelvis. The sensation of the voice sitting securely down in the lower body is essential to having secure and easy high notes. The feeling of the body being heavy helps especially with the high soft notes. It is obviously something to be desired for any singer! This is one of the

most important postures for developing the upper register of any voice.

Breathing Exercise

Source: great singers, past and present; and teachers of Bel Canto

10-count breathing:

This exercise is the same for both men and women. Stand or sit erect (in a straight-back chair if sitting); your spine in proper alignment—chest slightly raised; arms slightly behind the body, allowing the "air box" to be fully open and expanded.

Exhale, releasing all of your breath, allowing the abdomen to fall out as you exhale.

Inhale to a count of 10 seconds (start with 5 if necessary and build up to a 10-count). Inhale through the nose silently, slowly, as if smelling a fragrant flower for 10 seconds; as you inhale, simultaneously draw in the lower abdomen slowly with the inhalation; hold the breath for 10 seconds and then, exhale slowly and evenly for 10 seconds, relaxing the abdomen outward as the breath is released. This exercise can be done while walking, sitting or standing still.

At all times, the singer works towards the following criteria:

The jaw is free; the tongue relaxed and resting on the inside of the lower lip from one corner of the mouth to the other; the lips relaxed/the mouth closed with corners of the mouth slightly back (a gentle smile) for inhalation; inhalation is through the nose (as if slowly smelling a fragrant flower); upon exhalation, allow your jaw to fall open and slowly exhale through the mouth.

In Conclusion

Any book written on singing today will have to deal with faulty concepts of vocal technique that have become universally acceptable to the point of being, in some respects, convention. It is interesting to note that the greatest singers in history, including Enrico Caruso and Lilli Lehmann describe the correct method of breathing for singers as follows: "…when the singer inhales, the abdomen should be pulled in before singing and at the instant the singer begins to sing a tone, the abdomen should be released down and outward". Caruso

described the process in his book, **The Art of Singing**, as follows: "… Pull the abdomen in while inhaling, and do a contrary motion while singing." Lilli Lehmann, in her book,called the process 'the breath jerk' and described her breathing method as being like that of Enrico Caruso, although the two singers never compared techniques in person. This is a paradox, when one considers that today, the so-called correct method of breath support is taught to be the exact opposite function of both of these historical singers.

How can a young singer become as great as the "old" greats if he or she does not use the same criteria they used, as described in their books? Young singers today are directed as follows: no grunting; no sobbing; no slowing down; no speeding up; no holding notes too long; no cutting off notes too soon; don't wait too long; don't hurry; don't sing too dark; don't sing too bright; don't look up; don't put your head up; DON'T BREATHE (the most amazing of all bad advice!); don't, don't... DON'T!

All we can do is hope that there are young singers in the wings who are smart enough to wade through the "don'ts" and discover the "do's" that set the voice free. The true fans of beautiful, thrilling, expressive singing will be so grateful!

"The breath is the ocean---the voice is the boat that floats on the ocean! Nature gave us the voice---we cannot change it---but we can educate the breath and learn to control it. This constitutes the whole method of singing".

"Keep the heart warm and the head cool. Heart and head must go hand in hand."[28]

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ISSN 0049-5128.

[28] G.B. Lamperti. *Vocal Wisdom* (New York: Taplinger), 1957: 131-132, 144

SINGING:
THE ADVERBIAL ART
THE 'WHERE, HOW, & WHEN' OF IT…

Olga Ryss, my esteemed voice teacher, once said: "The most important word is ***where***. ***Where*** is it? ***Where*** should one breathe? ***Where*** is the support activity in the body? ***Where*** should the tone be placed?"

The question of **where** the physical activity of singing should take place is clearly answered in Enrico Caruso's book, The Art of Singing, originally published in 1908. He described very clearly the **progression of his thoughts** as he prepared to sing and the sequential continuation of his thought process while singing. Lilli Lehman and Luisa Tetrazzini described the mental process of their thoughts while singing also. The results of the thought-instigated biomechanical responses involved among these greatest of singers in their respective voice categories were amazingly similar. Singers and teachers, who believe men and women breathe and sing completely differently, may find the study of the methods of the aforementioned singers especially interesting.

Zeroing In

In this article, I want to zero in on three crucial adverbs: '**Where**, **how** and **when**'. Understanding the application of these three words to every singer's vocal approach will help to establish a dependable vocal technique that will respond to the music we want to perform.

I have been involved in vocal music for over fifty years. It has been my experience, the greater the singer, the clearer the mental picture of the command process and its expected result. Every singer I have ever met whose technique I admired had a warm-up ritual that was practiced nearly every day and before every performance. What is a warm-up ritual? It is a series of sequential thoughts and mental commands that trigger a predictable result in the mind and body of the singer. I discuss my warm-up ritual in

detail in Volume II of this three-volume series on vocal technique. It is called **The Posture Method**.

Success or Failure

The first step, in the application of cognitive intelligence to singing, is to clearly understand that great technical singing is a response to a series of mental commands. These mental commands evoke predictable, physical responses that result in the physical manifestation we call singing. The criteria of great singing require a realization that mental commands are the key to success or failure. If the breath is taken into the body as a result of an incorrect command, the production of tone will be faulty at best and ruinous to the voice at worst.

Questions and Answers

Questions we must answer as singers are "**where**, **when**, and **how**.' These three adverbs can establish and organize the mind/ body connection and coordinate the mental commands with the psychomotor responses that produce the singing voice. This approach has been called too complicated by some singers and too simplistic by others. It is neither. As Hamlet says in Act II, scene 2 of Shakespeare's immortal play: "Nothing is good or bad but thinking makes it so." Singers must appreciate the wisdom of the Buddha when he said: "Right thinking, right doing, right being." If we **think** the right thing, we will **do** the right thing. The result will be a right state of **being**.

'Behind and In Front'

The first question a singer should ask himself/herself as he/she prepares to sing is '**where**'? **Where** should the breath be placed when the singer begins inhaling, and **where** should it be kept in reserve until needed? Richard Tucker said, in response to my question about what to think about when singing: "Breathe behind you and sing in front of you." The question of **how** to breathe is dependent on the concept of **where** to breathe. As soon as the target zone for the placement of the breath becomes clear, the next question follows in immediate sequence: **How** do I get the breath into the target zone?

'Der Atemzug' (the breath jerk)

Enrico Caruso, LuisaTetrazzini and Lilli Lehmann answered these questions very clearly in their respective books. The three great singers agreed that the

answer to the question of **'where'** the breath should be 'placed' in the body was to "…breathe deeply into the lower back, into the lower rear quadrant of the lungs."
The ribs in the lower back will expand as a **reaction to the inhalation**. The ribs should never move unless the inhalation moves them. Expansion of the ribs or chest as an action independent of breathing, especially the expansion of the ribcage outward and sideways, creates stiffness and artificiality. Any action of the ribcage not instigated by the deep, silent inhalation through the nose and into the ribs in the lower back, can cause tension in the upper ribs and throat. Action in the upper ribcage, based on stretching or opening the ribcage independently of the inhalation, will prevent the activation of the lowest ribs in the back. Luisa Tetrazzini said: "…breathe through the nose silently, like smelling a flower, directing the first drop of air into the lower rear quadrant of the lungs, and then, fill them completely from the bottom to the top." Lilli Lehmann agreed, recommending the same 'placement' of the breath' into the lower back, but added another detail of clarification. The **'how'** should include "…a sudden inward jerk of the abdomen at the instant the inhalation is directed into the lower back". She called it the 'Breath Jerk' (Der Atemzug). This was the method Lehmann taught to the historical sopranos Gerandine Ferrar and Olive Fremstad. Needless to say, the method worked fantastically for those two great, historical singers. Both had spectacular careers.

Agreement Among Greats
Enrico Caruso, in his book written in 1908, in agreement with Lilli Lehmann, recommended that the abdomen to be drawn in while inhaling, while raising the chest at the same time. This description of '**how**' to breathe requires that the singer completely expand the lower ribs in the back to accommodate the breath. According to his published words: "…the lower ribs work like a bellows, opening as the inhalation fills the lower lungs in the back, and squeezes the lower ribs in the back together while singing". (he called it "doing a contrary motion').

A Shortcut
What could be clearer? What do we not understand about **'where'** the breath should be directed for great singing, and **'how'** to get it into that specific part of the body in the lower back? There is no reference by the greatest singers in history to the **outward, forward expansion of the belly while inhaling,** and the **pulling in of the belly while singing**. That method, the breathing method of a **sleeping** baby, was recommended by Dr. Levi

Mandl, a famous Medical Doctor (not a singer!) in the early 1880's, as a way to inhale a large volume of air, without needing to spend years waiting for the sufficient development of the elasticity and capacity of the lower ribs in the back. The "belly outward" method of inhaling became an overnight sensation. It was immediately accepted in many conservatories as a shortcut to the development of breathing and support. Of course, **it was exactly the opposite way of inhaling** from the long-proven method recommended by the greatest singers and teachers of the *Bel Canto* era. In this article, I want to zero in on three crucial adverbs: These adverbs are important to every singer's vocal approach and will help to establish a dependable vocal technique that will respond to the music we want to p

Crying or Sleeping

The famous tenor, Georges Thill, tried to teach the *Bel Canto* breathing method at the Paris Conservatoire, but the students rejected it. Thill had learned it from Fernando De Lucia, the greatest male exponent of the Bel Canto vocal style in history. De Lucia was known as 'La Gloria d'Italia' (The Glory of Italy), because of his ability to demonstrate the perfection of Vocal Art. However, by the time Thill retired from his performance career and began to teach, the insidious, reversed-breathing technique of a **sleeping baby** had become well known as a so-called 'natural' short-cut to breathing and support. None of the students wanted to learn the old Bel Canto breathing and support technique of the **crying baby**. They would have 'to wait too long to learn to sing!

Illogical Acceptance

Many singers and teachers have 'inherited' a belief that the best approach to breathing and support, the most 'natural' way to breathe and support, is to **imitate a sleeping baby**. They generally have no idea that this theory was conceived in 1883 in the mind of a non-singer! It is amazing that Intelligent people don't question the illogic of this concept, especially considering the fact that it conflicts with the breathing and support method that had produced the greatest singers in history!. Singers should remember that **they are not asleep while singing**. If "baby breathing" is going to be imitated as a basis for 'natural' breathing and support, a baby who is **awake and making sounds**, **laughing or crying, should be studied carefully**. No baby pulls the stomach in to make sounds. It presses the belly outward when making sounds, and there is nothing more 'natural' than that!

Pavarotti's Babies

Luciano Pavarotti demonstrated the laughing or crying baby's support technique during one of his Master Classes. When asked by a student how to support the voice, he advised singers to move the belly **outward while singing**, which was the **opposite** of what was being taught at that institution. "It is like a baby here", he said, putting his hand against his lower chest and moving it outward and forward. "Push! Push! Push!", he instructed. He was the father of three children and had studied their breathing and support functions (**the 'natural' way to breathe and support the voice**) while they were **awake** and crying or laughing. There was certainly no doubt in his mind which direction the belly should move while singing. He used the crying baby technique he observed in his babies and, by applying the **true** 'natural' method, made a phenomenal career! We should remember that, after all, singing is closer to crying than it is to silence! The fact that the most famous singer in the world advocated a support technique that was the opposite from what was currently being taught at Juillard caused some consternation among the voice students at that institution! What in the world was being taught by the voice faculty? Certainly nothing that resembled Pavarotti's method!

Contrary Motion

This brings up the question of what to do with the breath after it is drawn into the lower back. At this point, the 'where' and the 'how' segue into the 'when'. Caruso said, "Do a contrary motion (**how**) while singing (**when**)." That means that singers should let the abdomen move **outward** on the attack of a note, while pressing ('leaning') the breath against the lower chest. The famous music critic for the New York Sun, W. A. Henderson, wrote that "Caruso has the only perfect attack I have heard in fifty years of attending the opera." The combination of outward movement of the abdomen and downward movement of the chest while singing, motions which are **contrary** to drawing the abdomen inward and raising the chest while inhaling, continue for as long as the sound is sustained. "At the moment of inhalation, draw the abdomen in and raise the chest. At the moment the singing begins, do a contrary motion." It is easy to do because it is the **natural method**. It is exactly the same support method used by a baby when **awake and crying or laughing,** and is the same 'leaning' (support) method described by Pavarotti.

The Difference That Matters

Lehmann and Tetrazzini were in slight disagreement with Caruso as to exactly **when** the pressure against the chest should actually begin. Instead of leaning the breath at the instant of singing, the Divas thought a pressure of the breath should be 'propped' (leaned, stopped) against the chest an instant **before** the instigation of the sound. The difference between the greatest male singer's timing, and the timing of the two great female singers, had to do with **when** the outward release of the abdomen should commence, and **when** to instigate the pressure ('appoggio') against the chest. The correct way to attack a note, according to the two great sopranos, was to "press the breath against the chest" (Tetrazzini recommended the sternum and Lehmann recommended the chest.) an instant **before** the actual singing begins. Caruso allowed the abdomen and the chest to relax outward and downward at the instant of attack without any other preparation. The "how" is very specific in that it is a pressure method, regulated by allowing the closing (Caruso said 'squeezing) of the lower ribs in the back. It is the same movement of the breath on the attack as suggested by Mattia Battistini, the greatest Baritone who ever lived. When asked what he thought about when while singing, he said, "I press my chest." The secret is to know **when** to execute the order. The '**where**' is very clear if we follow the advice of the greatest singers. We are advised to create breath pressure against the chest, and "push, push, push" the breath against the chest while singing (Pavarotti). Is there an exact time, an instant before the sound begins, to actually press the breath against the chest that will be more efficient than another? We glean from the writings of some of the greatest singers that the ideal moment of establishing the "lean of the breath" (the 'appoggio') is an instant **before** the creation of the sound. Caruso, with the only perfect attack W.A. Henderson heard in fifty years as a music critic in New York, had his timing down to creating his 'contrary motion' exactly at the moment of attack.

Before and After

It is very important to the freedom of the throat to understand, that the great singers created mental and physical conditions **before** breathing and **before** singing. Timing was apparently considered crucial by the very best singers in history, and is something for modern singers and teachers to consider. The "**where** and **how**" were not the only essential concepts. The '**when**' (the timing and proper execution of the sequence of thoughts) was crucial to good singing. The resulting actions and reactions, as dictated by the **'where', 'how', and 'when'**, constituted the foundation of what we call 'breath support' and the predictable, even emission of the voice. This

method of breath support, advocated by Caruso, Tetrazzini, Lehmann, and Battistini became the basis of what is referred to today as the vocal style of the Golden Age of Singing. The results of this approach were so successful that the vocal style it generated gained a name of its own: Bel Canto (beautiful singing).

To Do or Not to Do

Many singers and teachers will find this approach too different from modern vocal theory. However, it is important to remember that this method came first, and was, and still is, the absolute best method of breathing and singing ever discovered in the history of singing. There is no record of a great singer from the past mentioning modern concepts, like 'focus', 'lifting the soft palate up and back', 'pushing the belly outward while inhaling', 'pulling the belly or abdomen inward while singing', 'spreading the ribcage horizontally' without breathing, holding the ribcage open with muscles' by spreading the upper ribs apart, 'covering the tone as a muscularly independent action, 'hooking' the passaggio tones by gusting breath upward into the nasopharyngeal area', 'vowel modification', 'puckering' or 'pursing the lips forward', collapsing the 'open smile' or the 'oval lying on its side by allowing the corners of the mouth to move forward', or 'pulling the jaw down into a vertical posture of the mouth'. The method of the great singers described above is based on the following concepts;

'**where'** … the ideal location of the inhalation is into the lower back. Tetrazzini said "to place the first drop of breath into the lower rear quadrant of the lungs" by using a "silent, deep inhalation through the nose, as if smelling a flower" (how). The ribs do not move unless the inhalation moves them. The mouth should be shaped 'like an open smile' (how), with the corners of the mouth kept in a pulled back position (where).

"**How**'… Caruso and Lehmann said to 'draw the abdomen inward (where) while inhaling allowing the ribs in the lower back to expand "like a bellows" while raising the chest at the same time' (how). The breath is then (when) pressed against the chest (where), and the ribs in the lower back are allowed to close (squeeze together) while singing.

'**when**…' The timing of the 'attack'of a tone is described by Caruso as a motion that is contrary to the inhalation (how) and should begin at the instant the tone is sung (when). He directs us very specifically not to sing "while still breathing in" (how). The inhalation function of the ribcage and diaphragm should not continue expanding while singing (a popular technique in Germany to day, called the 'Verhaltungsmethode" (the restraint method), but should be released in the exhalation mode and 'leaned', or

'stopped' or 'pressed' against the chest (how). Lehmann and Tetrazzini described the timing (when) for creating pressure (how) against the chest (where) as "an instant before the tone begins" (when). The 'appoggio,' once established, must be sustained as long as the emission of the voice continues." Tetrazzini also said to "keep the pressure of the breath (how) against the chest (where) **at all times**" (when).

Jaws and Eyebrows

The greatest singers and teachers also advised us to allow specific responses in the throat to their recommendations concerning the breathing method.

Caruso said "to attack the 'ah' far back and low in the throat (the 'where)." He told Rosa Ponselle to "keep a rectangle in the back of her throat at all times (the 'how' and the 'where')". G.B. Lamperti agreed with Caruso and Ponselle, that the shape of the mouth and throat (where) should be the shape of an'oval' lying on its side (the 'how'). The back of the throat (where) should be the same shape as the bright 'ah' in the Italian word 'stai'(how). His most famous student, Marcella Sembrich, used the 'oval' during her long career, and taught it to her students after her performance career ended.

Caruso recommended the 'power of the respiration' as the mechanism for opening the throat (how) and said: "…the open throat is maintained (how) by the power of the respiration".

Tetrazzini used a concept of a tiny point on the hard palate (the 'where'), relying on the deep inhalation of the breath into the lower rear quadrant of the lungs (where) to maintain the open throat (the 'how'). She said in her book, that she "spent hours in front of a mirror learning to move her eyebrows without allowing the jaw muscles to flex. She wanted to be able to "express emotions as an actress **without tensing the jaw'**. She said, "If the jaw becomes tense, you will not be able to sing."

Lehmann placed her voice by "**lifting the soft palate up and forward** (where) **at the moment of inhalation"** (when). She referred to the up and forward motion of the soft palate as '**moving the back wall of the nose forward**.' Singers can experience the movement of the back wall of the nose forward by sustaining an 'mmm' for a few seconds and suddenly trying to sustain the consonant 'B'. The nose will close instantly, and sustaining the "B" will be impossible.

Closing the nose, to prevent nasality and achieve the 'True Mask', as a separate muscular **action, either primarily or secondarily,** will not be necessary at all if the breath is strongly and silently drawn into the lower back. The soft palate will rise **upward and forward** as an opposite and equal reaction to the inhalation and the nasal cavity will automatically be

closed. **Caruso said the breathing method he advocated would cure all bad vocal habits, and Lamperti said that problems in singing are all caused by a mismanagement of the breath.** If there is a cure-all in singing, it is definitely breathing and support processes described by Caruso, Lehnann, Tetrazzini, and Lamperti.

A Vocal and Technical Phenomenon

There have been a few singers who have had long, successful careers, basing their vocal techniques on the writings of great singers and teachers of the past. Helge Roswaenge never had a voice lesson, and was, in the minds of many fans, the world's greatest tenor for fifty-five years. He depended on the technical approach described in Caruso's book as the best way to organize his own vocal method. He especially practiced the breathing and support functions and the **mouth shape** as described by the great Italian artist. Although he was Danish, Roswaenge was called the "The German Caruso" because of his enormous, thrilling voice and the fact that he made his career mainly in Germany and Austria. Critics, colleagues, and fans in the German speaking countries who heard Roswaenge in his prime referred to him as a 'Stimmphaenomen' (voice phenomenon). Many of Caruso's fans who heard Roswaenge in the 1930's found no reason to consider one voice better than the other. There has probably never been a better voice that Roswaenge's. It would have to be a matter of personal taste, especially among the Italian fans, to prefer Caruso or Roswaenge. In any case, it is certain that the voice of 'The Great Dane' was indescribably beautiful and powerful, with a scintillating mezzo-voce that could fill every theater effortlessly. He could sing the complete range of highest, (including high "D') to lowest notes at any volume level he desired. Even at the age of seventy, when I heard him live at the Gaertnerplatztheater in Munich, the voice was still one of the wonders of the world! When I asked him about vocal technique, he immediately said that I should read Caruso's book.

Perfection Without Thinking

Roswaenge was not like Fritz Wunderlich, the fabulous 'natural' lyric tenor, who seemed to have no cognitive process going through his mind while he was singing. According to him, when asked about his thoughts while singing, he said that he "…sang like everybody else." Of course, no one believed him, because of the incredible vocal technique he demonstrated to the world. He was a fantastic technical singer in the execution of his breathing and support, and belonged to that elite group of singers who proved that, whatever he was thinking and doing while he was singing, some

part of his mind was tuned in to his body in a way that made his singing a joy for all of us who were fortunate enough to hear him.

A University Trained Scientist

Roswaenge, on the other hand, being a scientist by training and mentality, had a clearly defined, sequential mental and physical procedure, a 'where, how, and when', that he practiced and applied to his singing. He followed the advice in Caruso's book to the letter. The suggestions by the great Italian provided Roswaenge with the ability to exploit one of the greatest vocal gifts in history. He was an extremely advanced practitioner of Yoga and had the most prodigious breathing capacity I have personally observed. His application of the principles of the Bel Canto vocal style learned from Caruso's book, plus the enormous breath capacity at his command, gave him the ability to astound the world with his phenomenal voice.

A Scientist's Approach to his Warm-up

I studied singing with Roswaenge for one winter in Munich. One approach to teaching and vocal technique he used was to demonstrate what he called 'the adverbial Art'. The steps that a singer should take to learn good vocal technique can be accomplished by understanding how to apply three adverbs: 'How, When and Where'.

He pulled his abdomen inward (where) while inhaling into his lower back (where).

At the same time, he smiled (how), raised (how) his chest, and pulled his abdomen inward.

The intensity and depth of the inhalation was extremely exaggerated (how), and due to his life-long practice of Yoga, his breath capacity was enormous. During the warm-up period, the inhalation was especially long and sustained (how). His inhalations certainly fulfilled the Caruso's demand for '**massive** (how) **respiration**'.

He would demonstrate the open throat by breathing deeply with the corners of his mouth pulled back exaggeratedly (how) in the shape of an open smile.

No teeth were allowed to show. The upper lip was pulled down to cover the upper front teeth, and the tongue across the lower lip covered the lower teeth.

Each vocalise began with movement of the chest outward and forward in coordination with an outward and forward movement of the abdomen.

He would then begin to sing a series of staccati on different vowels in the middle range, bouncing them on his outward moving diaphragm while relaxing his abdomen outward.

After locating the two responses to the activity of the staccato function…one on his chest and one in his lower pharynx, he would sustain a tone on each point provided by the staccato (how), alternating from the chest to the throat and back.
The sounds he made from the point on his chest sounded exactly like the sounds emanating from the tones based on the staccato point in his throat.
I would not have been able to tell the tones apart if he had not clearly demonstrated with his hands and pointing fingers the source of each tone.
At the instant of the attack of any sustained sound (**when**), he would press the breath (**how**) from his lower back (**where**) against the corresponding staccato point on his chest (**where**).
He would demonstrate the open throat by not allowing the mouth to change shape (**how**) from low note to high note while singing octave leaps on different vowels with the corners of the mouth pulled back as far as possible. No 'covering' or 'vowel modification' was allowed as an action, although a definite change of acoustical quality occurred automatically as he passed through the 'passaggio'.
The front of the tongue was kept in contact with the lower lip, from corner to corner of the smiling mouth (**where**), while the back of the tongue was inhaled (**how**) downward (**where**). The corners of the mouth were kept pulled back (how) at all times as a contribution to the open throat, just as demonstrated by Caruso in the photographs in Dr. Marifiotti's book on every vowel, including 'oo'.
These few ideas, sequentially applied to his breathing and his phonation, comprised the totality of his 'vocal method', and it was learned from a book!

Basic, Efficient and Reliable

Singers and teachers should read the words of great singers and teachers from the past and try to understand, without prejudice, the ideas and vocal practices of the Bel Canto era as described by its greatest exponents. There are clear explanations available to us all, describing the most successful approach to vocal technique ever discovered. Most of the mental and physical procedures described in books written by the great singers can be understood by applying the suggestions and descriptions of breathing, supporting, the open throat, and the phonation of vowels discussed here. **'Where, how, and when'**, a sequence of technical applications, organizes the mind and body of a singer into a healthy vocal function that can quickly and easily become a reliable approach to fulfilling the criteria of professional singing. The ideas in the books of Enrico Caruso, Luisa Tetrazzini, Lilli Lehmann, Giovanni Battista Lamperti, Manuel Garcia II, and Helge

Roswaenge explain the essentials of the Bel Canto vocal style in a manner that is easily understood and applicable as the basis for efficient and reliable voice production. And, of course, as Caruso said in his book: **"This art of respiration once acquired, the student has gone a considerable step on the road to Parnassus."**

JAWBONE

Some singers have jaws that could kill 10,000 Philistines! The old rule of 'the invisible jaw,' which demanded that the completely loose jaw hang down without flexing while singing, seems to have been forgotten.

The totally relaxed ('invisible') jaw
The jaw was correctly positioned by using gravity to drop the mouth open the width of one finger, and by pulling the corners of the mouth back. The 'open' smile was once considered one of the most important characteristics of the Bel Canto style of singing. The resulting shape of the mouth and throat was the 'open smile' or 'the oval lying on its side'. It caused the jaw to unhinge at the back which, when combined with a deep inhalation into the lower back, had a profound influence on the overall opening of the throat all the way down to the lungs. It was only one of several criteria that included:

'The invisible front of the tongue'
The front of the soft, flat, wide, and loose tongue was kept in contact with the lower lip from corner to corner of the mouth on all vowels, allowed to activate only when the articulation of the dental consonants required the tip of tongue to flip up and down, from the lower lip to behind the upper front teeth and back, without closing the teeth together.

The 'invisible back of the tongue'
The loose back of the tongue is drawn downward as a response to deep, silent inhalation through the nose and into the lower back, without allowing the front of the tongue **to leave the lower lip**. Enrico Caruso (1873-1921) said, "The open throat is maintained by the power of the respiration." The back of the tongue and the unhinged jaw contribute to the opening of the throat if the power of the inhalation is sufficient to draw the tongue down and out of the way of the tone. Luisa Tetrazzini (1871-1940) said, "The tongue can literally be a stumbling block to the voice." The tongue should never be shaped, pointed, cupped, lifted, curled, and the front of the tongue should never be pulled backward into the throat. Cupping the middle of the tongue or creating a 'ski slope' with the front half of the tongue are inventions thought up by bad

teachers who never sang over big orchestras. There is only one rule that applies to all situations where the tongue is concerned. It should be **completely loose and soft** at all times, except when the tip is activated up and down to articulate dental consonants. Ideally, the tip of the tongue will separate from the relaxed lower jaw and move up and down while the teeth stay separated. The jaw should not move up and down and chew the dental consonants like Pac-man.

'The invisible throat'

There should be no sensation of action or visible signs of tension or flexing of the muscles and tendons in the throat or neck while singing. The throat should **react** to the strong, silent inhalation through the nose and into the lower back. The larynx should descend **reactively** without independent muscular action to assist it. Once the singing begins, there should be no movement of the larynx, although it is completely soft and loose and free. The 'power of the inhalation' and the 'appoggio' maintain the low, 'floating' posture of the larynx. Note: One sings **through** the throat and **never with the throat**.

No change of the emission of the breath while singing

Legato singing, the binding of one note to another without any sign of interruption of the constant smooth emission of the voice, is the hallmark of great singing. There must not be a disturbance of the evenness of the emission at any time while singing, unless called for by the composer in the form of an accent. Accents should be performed by suddenly emphasizing the pressure of the breath against the chest. Stopped double consonants (dd as in freddo, bb as in babbo, cc as in occhio, tt in tutto, etc.) are performed at exactly the same degree of pressure against the chest as the sustained singing (the 'cantilena').

A horizontal opening of the mouth (the 'gentle smile' or the 'open smile')

Marcella Sembrich (1858-1935), called the correct form of the mouth to be maintained while singing, "the oval lying on its side". Caruso told Rosa Ponselle (1897-1981) to "keep a rectangle in the back of her throat at all times." Helga Roswaenge (1897-1972) called the position of the mouth best suited for the projection of the voice the 'open smile.' Tetrazzini said, "The correct shape of the mouth is formed by smiling. The mouth must not change shape while singing."

The hinges of the jaw open if the corners of the mouth are pulled back. Some singers do this extremely, regardless of the words or the emotions to be expressed. Text is sung through the soft, oval-shaped opening of the mouth without changing the form, just as a ventriloquist can pronounce words clearly, without any distortion of the vowels or tension in the throat. Many Italians

speak through one horizontal mouth form (the laterally shaped mouth, or the 'oval'). Interested singers need only to observe an Italian TV announcer and watch the corners of his/her mouth. The corners of the mouth will remain pulled back, and the interior form of the throat will retain its horizontal, open shape, regardless of the vowels to be pronounced. Or, even better, find the silent film of Caruso singing "Vesti la giubba" from Leoncavallo's I PAGLIACCI. Every singer and singing teacher should study that film closely and observe the shape of the mouth. The corners of his mouth were never brought forward.

'Soft purity' of the vowels, formed by thinking them.

Vowels are not created by forming them with the mouth or by using muscular tension in the mouth or pharynx**.** They are formed by thinking them. There is no need to form vowel shapes with the lips or the cheeks which will deaden the resonance of the voice.

'Vowel modification', the action of which causes a change of the shape of the throat, causes a reactive change of emission of the breath. Changing the shape of a vowel in the throat by separate action breaks three rules of the Bel Canto style of singing:

The first rule of phonation is:

The vowels must be pure and undistorted when sung;

The first rule of the Bel Canto vocal style is:

No action in the throat may occur while singing. Only reactions to deep breathing are permitted. 'Inhaling the vowel' is a common approach to creating vowels without separate action in the throat.

The second rule of the Bel Canto vocal style is:

There must be no change of the emission of the voice once a phrase has begun, unless to satisfy the demands of the composer.

Every action of any kind causes an opposite and equal reaction somewhere. Modifying vowels will definitely cause an action/reaction sequence to occur in the throat. The result will be a change of the emission of the voice.

The acoustical modification, that occurs when the vowel is sung correctly, **is of the sound itself,** as it passes from the middle register to the upper register, and **not of the phonation of the vowel**. The modification is **purely acoustical, as the resonance moves from the chest into the head.** It is not caused by physical action in the throat. Action in the throat is not needed to 'pass' the voice from register to register, if the inhalation is placed deep in the lower back, and the 'breath stop' (the 'appoggio', the 'breath prop', the 'lean') is firmly and

evenly maintained. This acoustical phenomenon is very easy to demonstrate if the teacher is knowledgeable. The controlling factor is the 'lean' of the 'superabundance of the breath', combined with the steady pressure of the breath against the chest. It must be sustained against the lower chest **at all times while singing**, and the muscles of the throat, maintained in a **totally neutral state**, will respond as the voice flows from the low range to the high range and back. The up and **forward** movement of the soft palate (the 'pre-sneeze') will occur before the singing begins, as a reaction to the inhalation into the lower back, and will be maintained while singing, as needed, by the even application of pressure against the chest.

Total avoidance of the slightest hint of nasality-

Caruso said to "Never sing into the nasal cavity. It is against all the rules of song". The correct placement of the voice must be above the level of the nasal resonance of the open nose ('mmm', 'nnn', or 'nnggg'). The **true mask** is the area of the face immediately **above the bridge of the nose** and in the **upper half of the front of the skull**. It is where glasses are worn on the face, and includes the area behind the eyebrows. Jussi Bjoerling (1911-1960) and Helge Roswaenge (1897-1972) said to sing "through the eye sockets and the eyebrows." Using 'mmm' or 'nnn' or 'nngg' places the voice **below** the eyes and **into the nasal cavity**. It would be better to vocalize on syllables beginning with 'b' (bah, beh, bee, boh, boo), which closes the nose, than 'm', which opens the nose, in order to prevent nasality. Labial consonants, pronounced with the lower lip protruded, assist the jaw to unhinge and prepare the open throat to project the following vowel. The consonant, 'b', does double service, by helping the jaw to unhinge and the nose to close, thus avoiding the nasal resonance.

Lilli Lehmann (1848-1929) said to "move the back wall of the nose forward." Trying to sustain a 'b' will demonstrate what she meant by that. Sustaining a 'b', or a 'd', cannot be done, because the 'back wall of the nose moves forward' (the soft palate lifts up and forward) and closes the nose. This movement can be easily identified, by repeating 'mm-bbah', mm-bbah' or nn-ddah, 'nn-ddah'. The nose is open when singing the 'mm' and suddenly closes for the 'bb'. The same is true when going from 'nn' to 'dd'. Slightly swollen cheeks are sometime observed in singers who try to hold the 'closed' consonants for too long. It is harmless, although can appear comical, and is often used by singers who specialize in comic roles ('buffo' roles).

Leonard Warren called the 'stopping the nose' function the 'pre-sneeze', and recommended 'preparing to sneeze' to the young singers as a way to 'place' the voice above the nose and into the 'Mask'. Lauritz Melchior (1890-1972) described it as "like singing with a head-cold, with the nose completely

'stopped up"'. He commented that "singers with terrible head colds often sing much better. There voices are suddenly much more powerful and beautiful."

The posture of the head should be maintained in a position that faces the second balcony.

Tetrazzini said, "The head should be tilted back in order to open the cavities of the head." This angle of the head offers room for the jaw to **hang/drop downward and open in a completely relaxed position. Gravity** assists the dropped jaw and the pulled-back corners of the mouth to open the mouth into the 'open smile' form, which unhinges the jaw and contributes to the open throat. Nikolai Gedda (1925-) and Fernando De Lucia (1860-1925) were criticized during their long careers, for pulling the corners of the mouth back extremely, no matter what emotion was to be portrayed. When Gedda was asked why he smiled such an exaggerated smile, he answered, "What do you mean, smile? I'm opening my throat!"

Unhinging the jaw should only be accomplished by smiling and pulling the corners of the mouth back, and it should be practiced until the hinge is loose enough to allow the jaw to drop open in the back. Allowing gravity to unhinge the jaw, with the corners of the mouth pulled back, while keeping the posture of the head facing the second balcony, guarantees that the jaw will not be muscularly pressed downward against the top of the larynx. Historically, singers who have exaggerated the 'head-tilted-back' posture have enjoyed very long careers. Of course, it makes sense, because tension in the throat and jaw is not possible if the head is thrown extremely back. There is left only the possibility of supporting in the body and not in the throat.

This is one of the main components of the 'Invisible Throat' vocal method. Dame Eva Turner, the greatest dramatic soprano in the history of opera in the British Empire, and the greatest exponent of the style of singing based on the 'Invisible Throat', said "The weight of a grain of salt or sugar would create too much action in the throat."

Pac-Man's Competition…the Underbite

The jaw, once relaxed, dropped vertically the width of one finger, and unhinged, should remain as loose as possible at all times. The 'chewing' of consonants should be avoided as much as possible**.** Dental consonants, including 'c, d, g, j, l, n, q, r, s, t, x, and z', should, ideally, be enunciated **without putting the teeth together** (without flexing the muscles of the jaw up and down). It may seem strange to English or German speakers, especially the soft 's', 't', and 'd' in Italian that seem to resemble a 'th' or a lisp more than our usual Germanic 's', 't' or 'd', but it is correct in the Italian language. Singers can use the method of enunciating with the tip of the tongue, instead of closing the

teeth together, to form the dental consonants, and project them more clearly over the orchestra, because the mouth is not busy closing for each one. The tongue separates from the lower lip, rises up from its usual 'bed' in the lower jaw, and touches the backs of the upper front teeth to articulate the dental consonants. It then returns to its 'bed', as the dental consonant is completed and the vowel begins again, with the front of the tongue in contact with the lower lip from one corner of the mouth to the other corner of the mouth.

The labial consonants require that the mouth close with the lower lip protruded. Protruding the lower lip with the corners of the mouth pulled back, helps the jaw to unhinge and contributes to the open throat. Unfortunately, some teachers use this fact as a cure-all in singing, and advocate the 'thrust' of the jaw forward. That is why we see singers jutting the chin out while singing. If the lip is protruded correctly, the back of the jaw unhinges in a downward direction and moves only slightly forward.

It is important to understand that the corners of the mouth must remain pulled back while the lower lip is protruded forward. Puckering the corners forward in a 'pout', in order to protrude the lower lip, will pull the placement of the vowel down into the mouth and negate the resonance of the Mask.

Beautiful singing is always based on deep breathing and the open throat. The 'invisible jaw', if accomplished through practice, will allow the jaw to remain in a loose, uninvolved state while singing the most difficult texts. Exercises, such as 'ma, la, ma, la,' or 'va, na, va, na, or 'pa, da, pa, da, ba, gia, ba, gia, or fa, rra, fa, rra, without moving the front teeth together vertically, will develop the freedom and flexibility of the front of the tongue. Diction, in general, will be greatly improved, and sound more authentic when singing other languages. Girseppe De Luca can be seen on Youtube singing "Figaro's" aria, "Largo al Factotum", from Rossini's IL BARBIERE DI SIVIGLIA. His performance of this aria, with its many 'lalalalalala's', is a perfect example of how to flick the tip of the tongue up and down to sing the dental consonants clearly without flexing the jaw, and how to maintain the 'oval lying on its side'. Also, Italians speakers do not roll the lower lip backwards and inward as many English speakers do on the labial consonants. 'Mamma' in Italian is pronounced with the corners of the mouth pulled back and the lower lip protruded for the 'm'. 'Mama' in English, unless the speaker is smiling, is pronounced with the corners of the mouth dropped down and the lower lip slightly rolled back. 'V' in Italian is pronounced with the lower lip protruding slightly ('vive'). In English, the 'v' is formed by curling the lower lip inward slightly and placing the upper teeth on top of it ('victory').

The above criteria, long established as the criteria for great singing, and offering the non-Italian the best opportunity to sing that beautiful language without an

English accent, are made possible by mastering the breathing method here advocated, as described by the greatest singers in history. The concepts of the breathing method they recommended are as follows:

The breath is inhaled silently through the nose
Tetrazzini said to inhale "like smelling a flower", **and direct the breath into the lower rear quadrant of the lungs.** The lower ribs in the back would expand as the breath moved them. Caruso and Lilli Lehman recommended **pulling the abdomen inward while inhaling** in order to create more expansion in the lower back. The corners of the mouth should be pulled back while inhaling in order to assist the unhinging of the jaw and the opening of the throat.

The accumulated breath that filled the lungs
Tetrazzini said to inhale the breath into the "lower rear quadrant of the lungs and fill them completely, from the bottom of the lungs to the top." The accumulated air in the lungs not yet needed for singing was called by Manuel Garcia II "the superabundance of the breath". The breath, in order to retain it and keep it away from the larynx until it was needed, **was pressed (leaned, propped, stopped) against the lower chest** an instant before the tone was instigated. The pressure against the chest was maintained against the chest by closing (Caruso said "squeezing") the ribs together in the back until the note or phrase was finished. The breath would be inhaled as described above before every phrase, and 'leaned' against the lower chest before every new tone or phrase was sung.

The conditions above made up the list of criteria which, when, performed in sequence or together as necessary while singing, defined the vocal style that was employed by the greatest singers in history. The development of singers and their extraordinary abilities were so wonderful that, at the peak of the success of the vocal method based on 'baby-breathing and support' took on a new name. It was called the 'Bel Canto (beautiful singing) vocal style'.
Unfortunately, absolute freedom of the throat and jaw, and the muscles that surround them, are no longer required or expected of singers in our modern world of singing.

Forbidden
Instead, we have:
Tension in the tongue, caused by 'cupping' or 'sloping' the shape of the tongue. Any form of muscular contraction of the tongue muscle during the Bel Canto era was absolutely forbidden. It is obvious to any singer who has had a

performance career in big theaters that those teachers who recommend 'ski-slopes' and 'cups' in the tongue were never real singers.

Pulling the tongue away from the lip and backward into the throat- Tetrazzini said: "The tongue can literally be a stumbling block to the voice." The front of the tongue should lie flat and sustain contact with the lower lip and the lower front teeth at all times. The back of the soft, relaxed tongue is drawn downward though the power of the inhalation, thereby contributing to the vertically open throat.

Depressing the jaw downward- The jaw must never be flexed downward and opened into a vertical position, like the painting of "The Scream" by Munch. Some singers look like baby birds begging for a worm!
The jaw is allowed to drop open as the muscles that control it are completely relaxed. Gravity pulls the jaw down, not muscular action. The ultimate position of the mouth, the 'open smile', is assisted by tilting the head up and back, as if facing the second balcony, with the corners of the mouth pulled back. The unhinging of the jaw, the result of these coordinated movements, assists the opening of the throat. The vertical opening of the mouth should not exceed the width of one finger in the middle range of the voice, or the width of two fingers in the upper range of the voice.

'Chewing' the jaw up and down (doing the 'Pacman") while enunciating dental consonants-closing the teeth together when enunciating a dental consonant, including 'c, d, g, j, n, q, r, s, t, x, and z', acceptable in the Germanic languages, is not acceptable in the Romance languages, nor is it a sign of good singing. Great singers of the past, trained in the Italian school of singing, never allowed the teeth to come together to enunciate a dental consonant. Great German singers who were properly trained in the Italian vocal style, learned to pronounce their difficult language without 'chewing' the chin up and down while declaiming text. Richard Wagner said that he wanted singers trained in the Bel Canto vocal style to sing his operas.

'Covering' (an obvious action in the throat) Distorting the vowel forms to accommodate a lack of a steady pressure of the breath against the chest ('appoggio'), or 'shooting' a gust of breath upward into the throat ('hooking') is simply bad singing. The acoustical change that correctly occurs in the 'passaggio', as the voice 'passes' from one 'register' to another, requires a totally relaxed throat, a secure 'lean' of the breath, and no change of emission. Action in the throat is **never** required to accommodate the changes in the resonance, as the singer passes from the middle range to the high range, if the softness

(invisibility) of the throat is maintained and the 'appoggio' is sufficient. Oddly enough, this 'passing' effect of the voice from one register to another, without distorting the vowel form or changing the emission, is one of the easiest things to demonstrate in singing, and one of the most difficult things to get singers and teachers to believe. Singers and teachers hear the acoustical changes in the voices of great singers as they pass from one register to another, and imagine that the changes are the results of action in throat. The truth is, the change we hear is strictly **acoustic**, and not induced by contortions in the throat or sudden changes in the breath. Carlo Bergonzi (1924-), a tenor famous for his incredible 'legato' (smooth, continuous singing) and his fabulous 'passaggio' singing, tried to explain the total absence of action in his throat or with his emission of sound, to some young singers in Milano in a Master Class and failed, in spite of his ability to demonstrate the 'passing' of the voice without action in the throat or breath. He chose the opening line of "Celeste Aida" from Verdi's AIDA as his phrase for demonstrating the 'passiggio'. No matter how many times he showed the young male singers how to 'undo' the throat and leave it free with no interference by the breath, they could not please the Maestro. He demonstrated over and over the dropping of the jaw on the f-natural at the top of the phrase, and how the tone would 'pass' when he did nothing in his throat, and the students couldn't believe him. They could hear the acoustical change so clearly, that they were convinced Bergonzi was 'doing something' to make it happen, and he was simply not aware of it!

Sending sudden gusts of breath upward into the throat in the 'passaggio'- A change of emission of the breath is required if the technique of 'covering' or 'hooking' or vowel 'modification' is used. Every action has an opposite and equal reaction. Any action in the throat will require an opposite and equal reaction in the emission of the breath. It should be clear, even obvious, that no action in the throat should occur. Legato is the hallmark of great singing. Everyone knows this most basic fact. Any form of disturbance that is not asked for by the composer, like and accent or sforzando, is simply not a part of the Bel Canto vocal style. I coached with very famous Italian vocal coaches: the head coach at the Met during the early 1960's and former assistant to Victor De Sabata (1892-1967), Victor Trucco; the most famous coach in Milano during the 1960's, Ettore Campogalliani (1903-1992); Arturo Toscanini's (1867-1957) lifetime assistant, Dick Marzollo. They would all shout "Non passare la voce! Non passare la voce!" (Don't pass the voice! Don't pass the voice!) if they heard the slightest change in the vowel or the emission as I sang through the different registers of the voice.

Vowel modification-an amateurish substitute for inadequate use or knowledge of the 'appoggio' (the 'pressing' of the breath against the chest). It is another method that causes action in the throat and is unnecessary if the breath is drawn down into the lower back (Caruso, Tetrazzini, and Lilli Lehmann). The soft palate, as a **response to deep breathing**, will lift up and forward. Access to the nasopharyngeal space required for the 'passaggio' will automatically be created and allow the 'passing' of the voice from one register to another. A secondary, independent, muscular action that influences the even emission of the breath, other than the 'breath prop' (the appoggio) will not be necessary. A modification of the nasopharyngeal space in order to access the upper register of the voice will not be necessary.

Contractions of muscles directly under the jaw and behind the chin- Muscular actions under the chin contract and become shorter (all contracted muscles become shorter). The shortening of the muscles creates, as a reaction, a pull upwards on the **hyoid** bone, which, in turn, pulls the larynx upward. This will instigate a 'vicious circle' of actions and reactions in the throat which must be eliminated if damage to the voice is to be avoided. The 'thumb exercise', rubbing the underside of the jaw and behind the chin with the thumb while singing and speaking, until the muscles let go completely and 'turn to butter', is the cure.

Opening the mouth vertically instead of horizontally- Pulling the jaw downward was one of the most criticized and corrected muscular actions by great singers in Master Classes. Elizabeth Schwarzkopf, George London, and Franco Corelli all hated it and did a little ranting and raving about it in their Master Classes. It was considered, after 'focusing' and nasality, the worst manifestation of an amateurish approach to singing.
There is nothing about the '**baby bird opening its mouth to beg for a worm'** that is efficient, alluring, or acoustically beneficial. Peter Glossup (1928-2008) said, when asked why he sang with his mouth almost closed, "If you open the barn door, the cow will get out." The resonance should not 'get out' under the Mask. It should resonate in the mask, through the eyes and the eyebrows, not escape through a big hole below the Mask. G. B. Lamperti said, "The true mouth of a singer is the pharynx." No wonder so many American theaters, including the Metropolitan Opera, require sound enhancement systems. The singers today look like a flock of baby birds hoping for a meal!

Puckering the lips forward instead of smiling gently-Flesh doesn't resonate. Bones and teeth and hard surfaces resonate and reflect sound. Puckering the lips forward causes the vibrations of the vocal folds to be

absorbed into the flesh of the cheeks and kills the resonance of the voice. Closed vowels must be sung horizontally (the Italain 'oo' and 'oh') with the corners of the mouth pulled back and out of the path of the sound, thus avoiding the muffling of the vibrations of the voice. Singers have to learn to sing the 'happy oo vowel'. Study the pictures of Caruso demonstrating the vowels in Dr. Marafiotti's book. The corners of his mouth are always back, even on the 'oo' vowel. Christa Ludwig (1928-) is another good example of a singer who, like Peter Glossup, sang with her mouth very closed, almost in a horizontal 'slit'. The corners of her mouth always stayed back, even for the closed German vowels ('o' as in Tod, 'u' as in Flut, 'e' as in Leben, 'ie' as in 'fliegen', 'oe' as in boese, 'ue' and in Tuer).

Tilting the head downward-one of the most dangerous mistakes made by bad singers. It is a mistake that assures that the career will be a short one. All singers who have enjoyed long careers have sung with the head up, facing the balconies and not the floor. Pressing the head downward is a way to relieve the pull upward that affects the larynx when the muscles under the jaw shorten and pull upward on the hyoid bone. The extreme position of the lowered head, sometimes pressed down until the chin touches the chest, causes the jaw to push forward in a variation of the 'jutting' jawbone. The jaw becomes unhinged which allows the throat to open sideways to a certain extent. It is truly a lousy way to sing for the poor, deceived singer, whose resonance, roaring in his ears as it emerges by way of the Eustachian tubes, convinces him, that the resonance trapped in the trachea is a real voice. The voice comes out heavier sounding than the true, perhaps insignificant, 'natural' voice. The worst offenders are usually lyric baritones, who pretend to be manly by strutting around on the stage looking mean and intense. The voice seems to develop for a while, gaining darkness and thickness, when, suddenly disaster strikes, and irreversible damage is done to a vocal fold. The career is over and the voice can never be rehabilitated to what it was.

Pushing the head forward-Elizabeth Schwarzkopf (1915-2006) demonstrated this in her Master Classes. The head, if pushed at all, must be pushed backward and faced upward and not forward, and, especially, the head should not face downward. Pushing the head forward causes the tendons and muscles of the neck and throat to activate. Pushing the head backward or lifting it to sing to the balconies while smiling, unhinges the jaw and **relieves tensions in the front of the throat.** The sound that is produced is amazingly efficient if the breathing is deep and 'leaned', and not damaging to the vocal folds. Because the tilted back position of the head precludes support with the throat muscles, unhinges the jaw, opens the throat, and, according to Tetrazzini, opens the

resonating cavities in the head, breath support must occur in the body, and will, therefore, contribute to the longevity of the voice and career. It is simple test to try to sing while looking up, trying to emulate Caruso, Tetrazzini, Beniamino Gigli (1890-1957), Giacomo Lauri-Volpi (, Robert Merrill (1917-2004), Ezio Pinza (1892-1957), Dame Joan Sutherland (1926-2010), Luciano Pavarotti (1935-2007), Alfredo Kraus (1927-1999), Monserrat Caballe (1933-), Zinka Milanov (1906-1989), Birgit Nilsson (1918-2005), and Helge Roswaenge (1897-1972), all of whom had extremely long careers. If it is not comfortable, there is too much tension in the throat area. The tension can be relieved by deep inhalations into the lower back while pulling the corners of the mouth back. And, of course, the singer who has trouble singing to the balconies, must practice a little every day, until the muscles in the throat finally let go. Never force any issue that has to do with the voice. Freeing the throat completely may never happen in the lifetime of some singers, because flaws in the support system are too ingrained. However, gently trying a little bit at a time, without undue discomfort, and based on deep inhalations in the lower back, will begin to improve the excitement and color of the voice. Any amount of tension in the throat that a singer can do without, will ultimately lead to a longer, more successful career.

Nasal placement of the voice ('focusing')-Placing the voice into the 'false mask' (for instance, by vocalizing on 'ming, mang, mong', or 'ning, nang, nong' or some other nasal placement technique), was absolutely forbidden by every great singing teacher in the past, and by every great singer. Focusing narrows the Pillars of the Fauces eliminates the resonance of the head and makes the voice smaller. It is likes banging away at one spot on a bell with the clapper, while preventing the rest of the bell from ringing. The intense 'focus' of energy in one spot may seem like a real tone, but the real tone must allow the entire bell (skull) to ring. Caruso warns the readers of his book **"to never sing into the nasal cavity. It is against all the rules of song'.**

The 'true mask' lies above the bridge of the nose, and across and behind the eyes and the eyebrows.

Closing the nose, an action provided automatically by vocalizing on syllables beginning with 'b' or 'd',

or by practicing the 'pre-sneeze' function which will lift the 'back wall of the nose',

or by inhaling deeply into the lower back while drawing the abdomen inward, which will cause the soft palate to lift upward and forward as a reaction, will acquaint the singer with the true 'Mask'.

The Successful Practitioners

The actions described above were absolutely forbidden by successful voice teachers of the past, including Francesco Lamperti (1811-1892); his son, Giovanni Battista Lamperti (1839-1910); Manuel Garcia ll (1805-1906); Mathilde Marchesi (1821-1913); Blanche Marchesi (1863-1940); Vinceslao Persichini (1827-1947); Antonio Cotogni (1831-1913); and Fernando De Lucia (1860-1925).

Unfortunately, damaging and inefficient actions and complicated, quasi-scientific approaches have become acceptable in our conservatories and universities.

Some teachers actually teach their students to change the emission of the breath on certain notes in the passaggio between the middle range of the voice and the high range of the voice (called the 'break' in the U.S.). Other teachers have their students vocalize on 'ming, mang, mong' or 'ning, nang, nong'. Caruso said in his book "**to never sing into the nasal cavity**. **It is against all the rules of song**." Tetrazzini said in her book that **she spent hours in front of a mirror, learning to use her eyebrows as tools of expression, in order "to be able to act without flexing the jaw"**. She also said "to never get upset. If a singer gets upset, it will **stiffen the jaw** and he/she **will not be able to sing**."

The method of breathing, inhaling into the lower back while drawing the abdomen inward, as described in books written by Enrico Caruso[29], Luisa Tetrazzini[30], Lilli Lehmann[31], and Giovanni Batista Lamperti,[32] was employed because it eliminated the necessity for action in the throat, the jaw, the tongue, and the various physical components that are involved in producing the singing voice from the diaphragm upward, including muscles in the neck. Permissible action occurred only in the body, in the lower ribs in the back. The squeezing lower ribs were used to press the breath against the lower chest, which prevented accumulated breath from being released into the throat. The correct way to **inhale** and **control** the breath while singing, which created the total freedom of the voice, was clearly described in the writings of the great singers and teachers mentioned above. They recommended that the **inhalation of the breath** should be directed into the **lower back** while pulling the **abdomen inward.** This method of breathing would cause the lower ribs in the back of the ribcage to expand. At the moment of the instigation of the singing voice, the abdomen would be **released, allowing it to move outward and downward, thereby contributing to the squeezing function of the lower**

ribs in the back. The breath in the lungs not needed immediately for the production of sound (Manuel Garcia ll called it the 'superabundance' of the breath) **was pressed against the lower chest an instant before the beginning of the tone to be sung. The pressure of the breath against the chest (the 'appoggio')** was maintained while singing by gradually closing (Caruso used the term 'squeezing') the ribs together in the lower back until the next breath was to be taken. The biomechanics of the next inhalation/support procedure would be a repeat of the process described above.

Repeating the process

Every inhalation would be 'placed' into the lower back while **drawing the abdomen inward**, allowing the lowest ribs in the back to open and expand. Caruso called this extreme breathing "the **massive** respiration required for great singing."

An instant before singing a tone, the breath would be 'leaned' (pressed) against the lower chest (Tetrazzini called the application of the breath against the sternum "**the breath prop**, like leaning a ladder against a wall.") The ribs in the lower back would be allowed to close (squeeze together) while singing, which sustained the 'lean' (Lilli Lehman called it the 'breath stop') until the end of the phrase. The process would then be repeated as called for by the music. Caruso described the entire process of inhaling and singing as being like opening and closing a 'bellows'.

Method, Non-Method, and Modern Method

The breathing method described above was taught in Italy by the Lampertis, and, later, by Fernando De Lucia; in France, and later in London, by Manuel Garcia II; in Russia by Alma Forstroem (a student of G.B. Lamperti) at the St. Petersburg Conservatory; in Paris by Mathilde and Blanche Marchesi. The method they taught has passed down to following generations and is still being used today by a limited number of singers.

One amazing result of the 'Garcia school' in London, although not directly attributable to him, was the development of an approach to singing that was psychologically different from what had gone on before. Garcia had taught a biomechanical approach to singing…Breathe in a certain way, hold the mouth a certain way, use the abdomen a certain way, etc. Frederick Dahlberg (1907-1988), a student of a student of G.B. Lamperti, had use the same approach, and taught a process of sequentially applied biomechanical actions that had predictable results.

Somehow, in England, around 1912, this approach changed into a 'do nothing in the voice' approach to singing. The idea was to allow the resulting response in the respiration to 'find itself'. Instead of telling the student to actively inhale

in a way that would relax the throat, students were told to imagine the 'invisible throat'. In other words, the singer should achieve a perfect state of 'nothingness' in the jaw, tongue, neck and head, while breathing and singing. This psychological approach to singing was most successful in the Art of two of the greatest singers in history, Dame Clara Butt (1872-1936), a student of Jacques Bouhy (1848-1929), a Belgian bass, and Dame Eva Turner (1892-1900). It is interesting to note that both Dames studied for a time with the same teacher, Daniel Rootham (dates unavailable) when still very young (Dame Eva studied with Rootham between the ages of 11 and 14). According to Dame Eva, the two Dames discussed the 'invisible' approach to singing somewhere around 1932, and they were in complete agreement that the approach had always worked for them. It was not clear to me at the time where the concept originated. I assumed it was with Rootham, but I am not certain. Dame Clara was twenty years older than Dame Eva, and it is unclear if their paths crossed in a common voice studio at some point. By the time I met Dame Eva (1962), she was seventy years old and had a magnificent career behind her. She was concentrating on teaching young singers the secrets of her fabulous vocal technique.

The basis of her approach was typical in some ways, agreeing with the advice of the great singers of her era ("Shape the mouth like an oval lying on its side." "Breathe into the lower back if you need more air." "Keep the pressure of the breath against the chest."), but was different psychologically from any approach I had ever experienced. The idea was to imagine a state of 'invisibility' of the entire area of the body above the middle of the chest while singing. A total lack of sensation was created by using the imagination, described by Dame Eva as a "combination of invisible parts" of the vocal 'apparatus'. The 'parts' were: the 'invisible throat'; the 'invisible tongue'; the 'invisible jaw'; the 'invisible muscles under the jaw and under the chin', and the 'invisible head'. 'Invisible' was the term used to try to stir in the imagination the possibility of singing with a total lack of sensory stimulation or perception in the vital areas of the muscles and resonators above the chest that produce the singing voice. It should be as if "you could pass a hand through your throat and feel nothing there". Even the arms were supposed to "float" without the need to lift them by muscular action. The approach was close enough to the 'total stillness of the breath' demanded in my lessons with Olga Ryss (1896-1983) to allow me to attempt to win Dame Eva's approval. I was already accustomed to being very still and sensitized to movement in the throat. Needless to say, it was not a vocal method that could be learned overnight. However, I have tried to use the 'invisible' approach as much as possible during my own singing life. Some students and colleagues respond to it, especially when trying to teach young singers to relax the jaw. Some think I'm crazy if I suggest such a thing! It is

very difficult to learn to ignore the sensations caused by the vibrations of the voice in the Mask and in the head. Theoretically, it is possible and very efficient, and, at least, two of the greatest singers in history proved that it worked for them.

Limited Vibrations

In contrast to the breathing method discussed above, the modern breathing convention is to swell the belly **outward** while inhaling and to pull the abdomen **inward** and **upward** while singing (**the sleeping baby**). This is exactly the **opposite** of the recommendations of the greatest singers and teachers of the past. Modern 'support methods' ask the singer to execute a series of muscular procedures that are completely the opposite from those recommended by the singers listed above. Today singers are taught to **pull the abdomen inward while singing**, which forces breath up against the larynx. In this approach, there is no 'breath stop' below the area of the throat: the breath is pressed upward directly against the throat. The breath that is pressed upward by the collapsing abdomen, if not prevented somehow, overloads the function of the free vibrations of the vocal folds. Various muscles in and about the throat have to be activated in order to neutralize the pressure of the breath against the throat. The equalization of pressures against the throat and the neutralization process of flexing muscles to counteract muscles, limits the vibrations of the vocal folds. One sad result of this approach is, that sound enhancement systems are becoming more common in theaters in the U.S. Voices no longer project as well as they did in the past. Unfortunately, as if deadening the vibrations of the vocal folds were not bad enough, the constant pressure of the breath against the throat will eventually cause physical damage. Nodules and 'bowed vocal cords', chronic hoarseness vocal fatigue, inadequate stamina, and a host of other problems plague singers today. Air that is released or pushed upward, especially in the 'passaggio', will have to be controlled by muscles in the throat. Breath must not be allowed to overwhelm the vibrations of the edges of the vocal folds if rich, vibrant tones are to be achieved. Singing, even the worst kind of singing, becomes impossible if the vocal folds cannot vibrate due to unutilized breath being pushed up against them. The only control method available, if a stream of air is forced upward into the throat by the abdomen, is to use the very muscles in the throat that interfere with the freedom of the voice. (Remember the rule: **No action in the throat.)**

A Dumpling in the Throat

The jaw muscles become involved with the throat muscles in an attempt to control the onslaught of breath being forced against the larynx and the general throat area. The muscles under the chin and under the jaw begin to react in

sympathetic coordination with the tongue and the muscles of the throat. Muscular tension can begin to involve the epiglottis, resulting in a tense, pinched quality of sound called a 'dumpling in the throat'. (The common term for this condition in Germany is 'Knoedel im Hals.') Compensations for muscular activity (flexing additional muscles to equalize the pressures caused by the first set of flexing muscles) become necessary once the breath is pushed up against the larynx. This 'vicious circle' of activity, which never should have begun in the first place, can generate pain in the lower part of the throat and damage the edges of the vocal folds. Faults in singing, like the tremolo, the wobble, the shaking of the tongue and/or the jaw, nasality, etc, are all caused by reactions to reversed abdominal breathing. The control of the breath, if it is pressed upward against the larynx, will involve, sequentially, the muscles of the throat, the jaw, and the neck. It is a chain reaction of wrong contributing to wrong. The German term, "Teufelskreis" (Devil's Circle") describes the results of runaway, out of control breath being driven upward into the throat. The pulling in of the abdomen while singing, a physical procedure **never recommended by a great singer or teacher of the past**, forces the throat muscles to become involved in the controlling process of the emission.

Touching the Bell

In the old Italian school of singing, as explained in the books written by history's greatest singers, the breath would never have been allowed to enter the throat in excess of what could be utilized by the vocal cords. The great art of singing was dependent on, and defined by, breath control. Only the smallest amount of breath necessary for the creation of the desired tone was allowed to pass upward into the throat. The "superabundance" of the breath had to be restrained until it was needed. Modern singers need some form of breath control **below the throat**, **before the air arrives at the larynx.** It must be developed in order to allow the vocal folds to vibrate freely. Any vibrating string, on the violin or in the throat (in Europe, the vocal folds are sometimes referred to as the "vocal strings"), will cease to vibrate at its fullest if unnecessary action influences it. A bell must be allowed to ring freely with no impediment to its vibrations. Touch a vibrating string or bell while it is vibrating and the sound will instantly diminish or cease. If the vocal folds are 'touched' by exaggerated pressure of the breath or by muscular tension, either as action or as reaction, the efficiency of the vibrations of the voice will be diminished.

An Accidental Release

Permanent damage to the voice is a real possibility if breath is pressed up against the throat while singing. George London and Franco Corelli were two

of the greatest singers of the modern era. Both suffered damage to nerves in their vocal folds. They allowed a sudden release of breath to escape from the lungs and rise up under pressure against the larynx. London's 'accident' happened in Wagner's **Die Walkuere** and Corelli's disaster occurred in Gounod's **Romeo and Juliette**. One slip of the breath under pressure is all that is necessary to 'pop a nerve'. The most amazing thing about these two genuine tragedies was that both singers were wonderful vocal technicians who had sung beautifully for many years. London told me he had sung his vast repertoire of the most dramatic roles written for bass-baritone for 30 years without any vocal problems whatsoever. He sang one note with an accidental release of breath against the throat, and that was the end of his singing.

'Bowing the Neck'

Corelli sang beautifully for many years, and was the definition of a 'perfect natural singer' until a few years before the loss of his voice. As his repertoire became more and more dramatic, he stopped singing with his head up and back. The angle of his head began to tilt forward and downward. He began to crane his neck forward with his head leaned down into what is known as the 'bowed neck' technique. No one is sure why he started stretching his neck, but it began with the heaviest roles he sang. His adoring fans assumed it was necessary, to create the desired effects he wanted in the most dramatic roles.

Maria Callas started doing it, also, in the heavy, dramatic roles that became her main artistic expression, but no one thought she and Corelli were imitating each other. We know what happened to Callas' voice. The bowing of the neck can be seen on the later films of both singers.

The only singer I heard who survived the 'bowing the neck' technique without suffering nerve damage in a vocal cord or developing a wobble in the voice was Giulietta Simionato. She bowed her neck and bent her head downward somewhat while singing in the middle range of her voice. However, she always lifted her head and looked up at the higher balconies while singing the most lyric phrases and on high notes, and always sounded her best during those moments. The tilt up and back of the head may be what saved her vocal folds from damage. The only negative effect in her case was that her career was shortened, not by damage to the voice, but by her inability to physically maintain the muscular response required by her "hard style" method of voice production. It was a 'muscular' approach which was very dramatic, and seemed to express the necessary effects of dramatic outbursts when she needed them.

Notorious Beginnings

Neutralizing and equalizing the pressure of the breath against the throat, necessary because of the dangerous habit of **pulling the abdomen inward**

while singing, can cause reactions in the throat that will cause the jaw to quiver and shake. The muscles around the jaw and under the chin do a poor job of substituting for correctly applied mechanisms of breath control. The tongue usually responds to the chorus of flexing muscles and their conflicting tensions, by beginning its notorious quivering and shaking in distinct synchronization with the tremolo (a fast, shallow vibrato). Shaking and quivering of the jaw and tongue, due to the constant flexing of muscles in the throat, are common results of faulty breathing. Pressure of the breath against the glottis can do serious harm to the vocal folds, and/or to essential nerves which control the entire vocal mechanism. Techniques for dealing with tensions caused by faulty breathing become necessary, if one is going to try to sing in spite of a poor understanding of voice production. Unfortunately, we see evidence of extreme compensation methods in the jaws of poorly trained singers.

Trauma

One of the worst abuses we see among singers is the pressing downward of the jaw, followed by tilting the head forward and downward against the throat. In some cases, singers press the head so far down that the chin actually makes contact with the chest! Compare this technique with Dame Eva Turner's warning that **"…even the weight of a grain of salt or sugar would be too much activity in the throat."** It would also break the rule of "**No action in the throat**". Luisa Tetrazzini said, "The head must be tilted up and back at all times while singing in order to open the resonating cavities of the head." Caruso described the tendency for tenors to throw the head forward and down to secure the high notes "is a common mistake". Can you imagine the pressure and weight on the larynx if the chin is pressed down against the chest? One shudders at the thought! How many muscular actions will be required to compensate and relieve the vocal folds of paralyzing pressure? How much flexing and stiffness in the throat will have to be overcome in order to allow the vocal folds to vibrate? Dominant tracheal resonance is the usual result if the jaw is pressed down against the cheat. The upper range of the voice, if the jaw is pressed downward while singing, will require extreme 'hooking' (gusting the breath upward suddenly on one note) in the 'break' (the 'passaggio') as the voice moves from the middle range of the voice (the middle 'register') to the upper range of the voice (the head 'register'). Such compensation techniques invariably cause damage to the voice over a period of time. It has actually happened, that 'hooking' while singing with the chin and jaw pressed down against the chest, has caused a vocal fold to be torn away from its point of attachment. Some singers who experience this disaster have surgery that attempts to reattach the affected vocal fold to its previous position. The singer

is usually able sing again to a certain extent, unfortunately with the same 'vocal technique' that caused the damage. Drastically diminished vibrations of the scarred vocal fold can never achieve the equivalent overtones in the voice that were possible before the damage was done. The original beauty of the voice is lost and gone forever.

The deadliest form of trauma to the voice is permanent damage to a nerve in the vocal fold itself. This kind of injury, which is more common among singers than is generally known, can prevent the natural shortening and lengthening of the vocal folds when singing from the low range to the high range and back to the low range. There is no surgical procedure at the present time that can restore the normal function of a damaged nerve in the vocal cord. The vocal disaster is permanent and irreparable.

Chronic and Mysterious

Contracted muscles shorten their length. The muscles under the jaw shorten when contracted, causing an upward pull on the larynx. This contraction begins the chain of events that can eventually ruin the voice (the 'devil's circle' of actions and reactions in the throat). Singers, who depress the jaw downward against the chest to relieve the upward 'pull' on the larynx, may begin to suffer from a mysterious, chronic irritation of the interior of the larynx. Although usually told by a doctor that the chronic irritation must be a virus or an allergy, they find themselves with symptoms which are untreatable with antihistamines or antibiotics. The only medical treatment that helps is to use steroids to reduce inflammation. The symptoms often mimic infections or symptoms of gastric acid reflux (G.E.R.D.). Sadly, singers, desperately seeking help from Otolaryngologists, Psychiatrists, Chiropractors, Hypnotists, Acupuncturists, Herbalists, 'New Age' systems, strange diets, and over-the-counter medicines, fail to realize the truth. Doctors can find no reason for the vocal folds to be in a constant state of irritation, known in Germany as 'angeschlagene Stimmbaender', ('irritated vocal cords'). The German language can be explicitly descriptive when used to describe the results of various actions. In this case, 'angeschlagen,' (literally translated, it means 'hit at') clearly suggests that something has been hitting the vocal cords. Is it hard to understand that **the only thing going through the larynx is air**? Air goes through the larynx on the way into the lungs while inhaling, and through the larynx on the way out of the lungs. Air (breath) used correctly is the singer's best friend. Air (breath) used incorrectly is the singer's worst enemy.

Two Perspectives

Babies, considered to be examples of "natural" breathing, utilize the breath in **two different ways**. Many teachers advise their students to observe and

imitate the breathing of a sleeping baby. The problem with this idea is that, when we are singing, **we are not asleep**! Perhaps we should find out how a baby breathes when it is **awake** and laughing or crying.
If we are going to apply the concept of 'natural' breathing, how should we inhale, and how should we control the breath while making sounds? Which breathing function of a baby will achieve the best results? Which way will allow the jaw, the muscles under the jaw and the tongue to be free, relieving the many muscular contractions that cause the tongue and jaw to shake and quiver and damage the voice? The quivering tongue, the shaking jaw, and contracted muscles under the jaw and behind the chin, must be eliminated in order to sing the full-throated, ringing, *chiaroscuro* (clear/dark) tones that are the hallmark of great singing. Freedom of the muscles in the neck, throat, tongue, jaw, the muscles behind the chin, and a total lack of resistance inside the larynx, should be the goals we seek.

'Natural' Breathing: a repeat of perspective
For the sake of those singers who believe that "breathing like a sleeping baby" is the only correct way to breathe, because it is obviously 'natural', let us examine the breathing processes of babies from two perspectives:

1. The function of the belly when the baby is **silent**:

Babies inhale and exhale a certain way when they are **sleeping** (or are awake but **silent**). The belly goes **outward when inhaling** and goes back **inward when exhaling**. This is Nature's method, and it is, therefore, **perfect.** It is the way of breathing we should all practice if we want to be **perfectly silent**.

2. The function of the belly when the baby is **crying, laughing or making sounds:**

Babies inhale the opposite way before they cry or laugh or 'coo'. When the sound-making occurs, whatever the sound may be, the movement of the belly **reverses**, as compared to the method used by a baby when it is sleeping. The belly is **drawn inward when inhaling** and **moves outward when sound is made**. This is Nature's method, and is, therefore, **perfect**. It is the way we should breathe if we want to make **perfect sounds.**

Observations

Sometimes these movements of the belly are small, if the sounds being made are small, and sometimes vigorous if the sounds being made are vigorous. These observations are very easy to confirm if a crying baby is nearby. I've had

four of my own babies to observe, two beautiful girls and two beautiful boys, and I agree with Luciano Pavarotti, who had three of his own babies to observe while still a young tenor. He explained in his Master Class at the Jullliard School, when asked by a student how he supported his voice, that he imitated the support method of his children **when they cried**. Babies definitely move their bellies **outward** when they make sounds. Pavarotti went on to describe the correct function of his belly when singing. To quote him as accurately as possible, he said he supported his voice while singing "…like a crying baby. It is here like a baby! Push, push, push!" As he gave this advice, he demonstrated by putting his hands against his lower chest and pressing his belly **outward**. He relaxed his belly inward to inhale, and then pushed his lower chest slowly outward while giving an example of an airplane taking off. "It is like the airplane. The motor goes "wwwhhhooooooossssshhhhhhhh' while the plane is flying. If the motor stops, the airplane falls down." Pavarotti, considered a wonderful vocal technician, and the best example of Bel Canto singing since Dame Joan Sutherland, definitely moved his chest and belly **outward** while singing.Observe a crying baby lying on its back. The entire belly wall will move outward and rise toward the ceiling when it cries, due to the pressure of the breath being squeezed against the lower chest by the ribs in its lower back. This function of the 'lean' of the breath (the 'appoggio'), is exactly the same as the function of the belly Pavarotti demonstrated, and exactly the same function of the belly/chest as described in the books written by Caruso, Tetrazzini and Lilli Lehmann. The baby's lower ribs in the back open when it inhales, and close together, moving the chest outward when the baby makes sounds. This "bellows function" of the lower ribs in the lower back, expanding when inhaling, and squeezing together when singing, is perfectly described in Caruso's book. He was obviously breathing and supporting the way a baby supports when it is awake and crying. **He was not breathing and supporting the way a baby breathes when it is asleep**. By the way, he also had two babies to study at home. Perhaps they showed him how to make 'natural' sounds with his voice!

Truth and Nature

Singers, who are seeking the truth about "natural singing," will observe the mouths of babies while they are laughing or crying. The mouths of babies always open sideways, with the corners pulled extremely back. The clever student or teacher will compare the shapes of 'baby mouths' to the mouth shapes demonstrated by Caruso in the book CARUSO'S METHOD OF VOICE PRODUCTION, written by Caruso's otolaryngologist, Dr. P. Mario Marafiotti. The photograph of Caruso, demonstrating the proper mouth

shapes for the Italian 'ah' vowel, shows the **exact same mouth shape as a crying baby's mouth or a laughing baby's mouth**. The breathing and 'leaning' (support) technique described by Caruso in his book, can be used to compare Caruso's vocal technique with the perfect, 'natural' breathing and support techniques of a baby. The laughing/crying phonation method of a 'laughing/crying baby', and Caruso's description of his phonation are in total agreement.

The Shape of the Mouth While Singing

The corners of the mouth are pulled extremely back.

This action creates curved 'grooves' just outside the corners of the mouth where the cheeks and the corners of the mouth connect. Tetrazzini and Nikolai Gedda described this function as 'opening the throat'. Marcela Sembrich called this shape of the mouth, learned from Francesco Lamperti and his son, Giovanni Battista Lamperti, the 'oval lying on its side". Rosa Ponselle said that Caruso told her to "keep a rectangle in the back of her throat". Lamperti said, "The open throat is the same shape as the bright 'ah' in the Italian word 'stai'.

The upper lip is pulled down to cover the front teeth (or in our small baby, to cover the gums!)

In all of the photographs of Caruso performing or demonstrating the correct way to pronounce vowels, he **never** shows his teeth.

Franco Corelli was known to have repeatedly pulled down on his upper lip during performances. The critics in the New York newspapers did not approve and mentioned his 'private behavior' during performances as being distracting.

Hiding the upper front teeth, by pulling the upper lip down while singing, is easily observed in films of Richard Tucker, Lauritz Melchior, Zinka Milanov, and many of the greatest singers we can see on film. It is a fairly common technique among active singers in Germany. One only needs to observe Elizabeth Schwarzkopf's upper lip while she sings. It is repeatedly pulled down for every syllable and sustained vowel. She made certain that her upper teeth were covered while singing. In her Master Classes, she taught young singers to pull the upper lip down exaggeratedly while singing, calling it "pulling down the elephant's trunk"

The reason, for pulling the upper lip down while singing, is to prevent 'white' sounds. 'White' sounds will be made if the vowel is formed in the front of the

mouth instead of being 'inhaled' into the pharynx. Some teachers mistakenly believe that the 'bright' sound that is the result of lifting the middle of the tongue is 'frontal' resonance. Actually, it is a sound dominated by low facial resonance that, since it is below the True Mask, is lacking overtones. This is the worst effect caused by 'humping' the tongue or forming a 'ski-slope' in the middle of the tongue. Raising the tongue, or pulling it back into the pharynx, is like stuffing a hamburger into a megaphone! The sound that manages to escape the 'tongue trap' is weak and 'pale', with no depth. Showing the teeth while singing may create a tendency to 'shallow' the vowel. Caruso considered it a technical fault to "show beautiful teeth while singing". Pulling the upper lip down over the teeth assists the proper phonation of the vowel. The 'stai' formation of the throat creates the 'chiaro' (bright or clear) effect. Deep inhalations into the lower back provide the 'scuro' (dark or mellow) effect.

The front of the tongue is in contact with the lower lip, from one corner of the mouth to the other corner of the mouth.

This position of the tongue covers the lower teeth and remains in contact with the lower lip, from corner to corner of the mouth, or is returned to this position against the lip, for every vowel. The tip of the tongue separates from the lower lip to articulate dental consonants by moving up and down independently, **without moving the jaw up and down**. If the jaw moves up and down with the tongue as dental consonants are articulated, there is action in the jaw. There must be no Pac-Man (in Japanese it is called Pakkuman) chewing or biting action of the jaw in order to pronounce distinctly. The teeth should not close together to pronounce an 's', 'd', or 't'. The mouth, ideally, should close only to pronounce the labial consonants (m, v, p, b, f).

The lower lip protrudes slightly, with the corners of the mouth pulled back. This will create a horizontal groove under the lower lip (on the outside and visible), in order to create the labial consonants (m, v, p, b, f).

The corners of the mouth are kept back, even on the 'oo' vowel. Again, study the photograph of Caruso demonstrating the 'oo' vowel in the Marafioti book. It can also be found on my website, Trimblevocalinstitute.com. in the "Breathmaster" article. Notice that the greatest singer of all protrudes his lower lip. The corners of the mouth are kept in a pulled back formation, and the jaw unhinges and moves slightly forward. This is called the 'Italian oo', or the 'lateral oo', or the 'ventriloquist's oo', as opposed to the 'French oo', which is pronounced with the corners of the mouth puckered forward. Puckering the lips forward causes the jaw to drop

slightly downward instead of forward, and deadens the resonance by trapping it in the mouth and in the flesh of the lips and cheeks. 'Puckering' the lips while singing is to be avoided at all times. The 'Italian formation', with the corners of the mouth pulled back, should be practiced on all vowels at all times, and every labial consonant has as its basis, the same shape of the mouth. The Italian oo' is to be substituted for an 'oo' that occurs at any time, in any language. Of course, French people smile sometimes when they say 'l'amour'. A 'smiling oo' will allow the resonance to go above the mouth and nasal cavity, and find its way into the Mask. It should not get 'trapped' inside the mouth.

Singers should study the mouth shapes of great singers as much as possible, especially photographs taken while Caruso was actually in the act of singing. Caruso's silent film of him singing "Vesti la giubba" is exemplery, and the films of Maria Callas, Nikolai Gedda, Leontyne Price, Richard Tucker, Christa Ludwig, and Pavarotti. Watch an announcer on Italian television. The corners of the mouth are kept back at all times.

Caruso's Vocal Technique, Practiced by Millions

Caruso, in order to sing, followed a sequential process that is described in his book in this order:

He inhaled into his lower back with the abdomen moving inward, expanding the lower ribs (like a bellows), and raised his chest. Babies do this.

While inhaling, he kept his tongue in contact with his lower lip, pulled the corners of his mouth back, unhinged his jaw and opened his throat. Babies do this, too.

At the instant of the attack of a tone, he opened the mouth vertically the width of one finger, keeping the corners of his mouth back, and 'leaned'(pressed) his breath against his chest by doing a motion that was contrary to his inhaling function. Babies open wider when the get desperate and scream, but, for normal crying, they don't open their mouths very far.

He produced his vowels like a baby who is awake and crying or laughing. The 'ah' vowel was placed "far back and low in the throat". Manuel Garcia II said to place the vowel by doing a 'miniature cough'. Babies make a 'coughing sound' in their throats when they cry, which is placed 'far back and low in the throat'.

So, one thing is obvious. Caruso used the same vocal method as practiced by millions of babies around the world!

Perfect Singing and Character

The true and **correctly identified** "natural" method for making sounds (the crying or laughing baby) is the most efficient of all vocal methods. It allows a baby to cry for days (and sometimes for nights!) without straining the voice. Any singer or actor using this method will never experience problems with fatigue in the throat or irritation of the vocal folds. Helge Roswaenge, using the 'crying baby' method, sang three times a day for fifty-five years, without a vocal problem. I should mention that he had the 'floppiest' jaw I have ever seen. It was so loose when he sang, hanging down at the back, that it seemed like it could fly away at any moment! The only visible activity was that the corners of his mouth were kept pulled back at all times.

The only vocal problems Caruso experienced during his phenomenal career were caused by an emotional situation that occurred when his common-law wife ran off with the chauffeur. He was so distraught it nearly ruined his life and his singing. Otherwise, he never had trouble with his vocal folds. Beware, singers, of intense emotional upheavals! They have ruined many a singer: Some of them were among the greatest vocalists in history. Only Caruso's background of perfect natural singing and strong character allowed him to recover emotionally and physically from his time of extreme humiliation.

Crucial Point

A baby will **never pull the belly inward while crying or laughing**, and a singer **should never pull the stomach in while singing**.

A baby will **never pull the jaw or chin downward into a vertical oval** while laughing or crying, and a singer **should never pull the jaw down into a vertical oval while singing**!

A baby will **never pucker the corners of the mouth forward** while crying, and a singer **should never pucker the corners of the mouth forward while singing**.

These points are crucial to our discussion of the loosening and unhinging of the jaw, and its surrounding muscles and tendons. Manuel Garcia II, and the Lampertis, father and son, all directed their students "to never open the mouth in a vertical direction more than the width of one finger in the middle range of

the voice, and two fingers in the upper range". This advice was based on the concept of the 'open throat', described as 'same shape as the bright ah vowel in the Italian word, 'stai'. Pronouncing this word correctly will cause the corners of the mouth to be pulled back, thereby "opening the throat".

Two Modern 'Divas'

'Appoggio' (leaning the breath, pressing the breath against the chest, propping the breath against the chest like leaning a ladder against a wall), recommended by the greatest Italian singers, is concept often discussed in books written by the greatest singers and teachers of the Bel Canto era. Perhaps this one fact is the secret behind their ability to perform the incredible feats of vocalism that singers of the past were able to demonstrate to an astonished world. Lilli Lehmann included in her repertoire "Norma", "Konstanze", "Isolde", and "Bruenhilde". Not even Joan Sutherland, Zinka Milanov or Birgit Nilsson accomplished such vocal feats. There are today only two singers who have accomplished this incredible variety of repertoire and vocal styles: Rebecca Copley and Joanna Porackova. They are fantastic sopranos, having wonderful, long careers, singing the most difficult roles ever written for soprano voice. Roles they have performed with success include "Lady Macbeth", "Abigaile" in "NABUCCO", "Salome", "Elektra", "Tosca", "Aida", "Amelia" in "UN BALLO IN MASCHERA", "Turandot". "Bruennhilde" in both "SIEGFRIED" and "GOETTERDAEMMERUNG", and the above mentioned "deadly duo" of "Norma" and "Isolde". Amazingly, both can sing the "Queen of the Night" from Mozart's DIE ZAUBERFLOETE, in the original key, with high F's above high C. Very few singers have been able to sing one of these roles beautifully, much less all of them! These ladies can sing anything in the soprano repertoire with ease, fulfilling the demands of the most important conductors and audiences in the world, and they have the international reviews to prove it. They sing easily, with absolute control, and without any indication of vocal strain or vocal fatigue. They demonstrate a total absence of muscular activity in the jaw, and have done so for many years. Their fabulous technical approach to singing will let them enjoy exciting careers for many years to come.

The Mirror Method

Let us review the principles of "natural" breathing as we have discussed above: When a baby is asleep, or is awake but **silent**, the belly goes **out while inhaling** and goes **in while exhaling**. This way of breathing is the natural way to breathe during **silence, whether asleep or awake.** We will call this process 'Silent Baby Breathing'.

However, a baby breathes differently when he or she is preparing the vocal coordination required to instigate sounds. Observe babies closely as they prepare to emit a cry or laugh. The tummies of the babies are drawn inward while inhaling, with the lower ribs in the back expanding. Their tummies move outward, just as Pavarotti demonstrated at the Juilliard School, when they instigate a sound, with the lower ribs in the back squeezing together! And sometimes, if they are awakened, they send a message that they really resent being disturbed in their slumber!

The sound emitted by babies attracts the attention of anyone in range of their fantastically placed voices. The sound carries beyond all expectations, and can be a study for singers who desire to learn the secret of how to project the voice over an orchestra and thrill an audience! It can also be an opportunity to study the movements of the belly and the lower ribs in the back when the baby wants to voice a fortissimo opinion! The belly moves outward dramatically when a baby begins to cry or laugh, and stays out until the sound stops. If the baby decides to cry for an extended period of time, (like six weeks during teething!), the inhalations between sounds will cause the tummy to relax inward while the lower ribs in the back open and expand.

The ribs and the chest never move unless an action of the breath moves them. The process of inhaling should be the only cause of the opening movement of the ribs. Making sounds (laughing, crying, speaking, or singing) should be the only cause of the closing movement of the ribs in the back.

Never hold the ribs open while singing. It is against the "natural" breathing method of a baby. Caruso said in his book, "Never sing while still while still breathing in." He understood an approach to breath support, that requires holding the ribs open, independent of the movement caused by inhaling, as a 'breathing in' method, because, naturally and normally, the ribs are opened when inhaling.

This method of respiration and support,

Inhaling with the abdomen being drawn inward, and the lower ribs in the back expanding to their maximum,

moving the belly outward while singing,

pressing the breath against the chest upon instigation of the tone,

and keeping it there while sustaining the tone,

describes the breathing method of Enrico Caruso, Luisa Tetrazzini, Marcella Sembrich, Lilli Lehmann, Lauritz Melchior, Kirsten Flagstad, Mario Del Monaco, Jussi Bjoerling, Helge Roswaenge, Richard Tucker, Eleanor Steber, Jan Peerce, Jerome Hines, Nikolai Ghiarov, Giovanni Martinelli, Robert Merrill, Giuseppe de Luca, Mattia Battistini, Dame Eva Turner, Frederick Dahlberg, Frieda Hempel, Fritz Wunderlich, Rise Stevens, Mack Harrell, Birgit Nilsson,

and a host of the best singers of the past. When Mattia Battistini, considered by Caruso to be the greatest male singer he ever heard, was asked what he thought about when he sang, he answered, "I press my chest."

The above analysis of the biomechanics of a baby's breathing and support technique describes the breathing technique of every infant who ever cried.

The method of breathing and support as described by the greatest singers of the past, and the most successful voice teachers of the past, mirrored that of a crying or laughing baby.

"Push! Push! Push!"

Singers must analyze which breathing method they are using while singing. We are not asleep while singing, nor are we silent! We are wide awake and making sounds! Expanding the belly while breathing is "natural" only when we are **asleep** or when we are **silent**. If singers are going to use a "natural" approach, they need to analyze the breathing processes of a baby **when it makes sounds**. It all seems pretty obvious, doesn't it? Breathe one way while sleeping, another way while making sounds. It is nature's way, and fantastically efficient! According to Pavarotti, there is a constant outward and forward motion of the lower chest required for correct singing. He had three of his own babies to observe while still a developing young tenor. In his Master Class at Juilliard School of Music in 1982, he insisted that the diaphragm must go **outward** and **forward** while singing. He kept repeating, "It is like a baby here: push, push, push!" He demonstrated by putting his hand against the lower part of his sternum. Singers like to call this location 'the diaphragm'. "Push, push, push!" he repeated. He continued to advise singers to "imagine a jet airplane taking off." Putting his hand against his lower chest again, he moved it forward and outward very slowly with the outward movement of his lower chest, leaning his body forward at the same time, putting all of his weight on the front foot, while demonstrating the movement of the diaphragm he used when singing. He began to imitate the sound of a jet engine… "airplane go whooooooooossssssshhhhhhhh, and go up in the sky. If the motor stops (here he suddenly allowed his belly and his hand to collapse and move inward), the airplane will fall down. So it will be with the voice!"

Singers and teachers should research the breathing methods of the greatest singers as described by them in their books, and compare them to the breathing methods of laughing or crying babies. The great singers and teachers of the Bel Canto era recommended the same perfect, "natural" breath control method of a baby crying or laughing. A correct breathing method was crucial then, in order to sing well and stay vocally healthy. It is still the most important single

factor in creating and maintaining the freedom of the throat, tongue, and jaw while singing.

Pac-Man

This section is about the jaw and the freedom thereof, because it is, by its looseness or its rigidity, an **indicator** of tension, or the lack thereof, in the throat. It can also be the **cause** of tension in the throat, if it is not kept in a totally relaxed state while singing. A relaxed jaw, unhinged at the back, can be a major contributor to a healthy voice and beautiful singing. Faulty support and reversed breathing cause tension in muscles that normally have nothing to do with the production of the voice. The jaw, due to its sympathetic reactions to muscle contractions in the throat, can begin to shake, quiver, extend vertically downward, jut forward, or 'Pac-Man' in a chewing function while singing text. To watch singers singing today, one would think that many of them have never heard of anything as radical as a loose jaw! In the old days, singers would work constantly on nothing but the loosening of the jaw. Tetrazzini said she spent hours in front of a mirror learning to use her eyebrows, in order to portray the emotions of the characters in the many operas she sang, without flexing her jaw. She considered the looseness and the unhinging of the jaw to be essential to the open throat, and essential to good singing. At one point in her book, she said, "Never get upset and try to sing. It will stiffen the jaw, and you will not be able to sing." So, whatever her definition of singing was, she couldn't do it if she flexed the muscles in or around her jaw. How many singers today demonstrate a totally loose jaw while singing? Who sings the way Tetrazzini sang!

The Janus Mask

My first semester of study with Mack Harrell (1909-1960) at Southern Methodist University was spent on exercises to loosen the jaw, throat, and tongue, while singing scales and arpeggios. Mr. Harrell believed that the freedom of those organs was inseparable from their action/reaction relationships to the emission of the voice, and absolutely, therefore, essential to good singing. In order to eliminate any signs of tension or flexed muscles in the throat, a set of rules had to be learned. He explained that babies express emotions with a loose jaw. He used the term, 'diaphragmatic expressions' (emotional colors in the voice without the benefit of text), explaining that it is possible to color a tone simply by thinking an emotion, without tensing the jaw or the muscles under the jaw or chin. In the Italian language, these colors are called 'timbri' (timbres). A happy baby smiles and laughs with the corners of the mouth pulled back and the jaw unhinged, without stiffness or tension. An unhappy baby cries, sometimes desperately if the bottle is too slow to arrive,

with the corners of the mouth pulled back and the jaw unhinged, without stiffness or tension. The corners of the baby's mouth are pulled back at all times when laughing or crying. It is the principal behind the design of the "Janus Mask". Every emotion can be clearly demonstrated by an actor or singer with the corners of the mouth pulled back. Caruso said to "open the mouth well at the sides". Tetrazzinin said "…to sing with the mouth in the shape of a smile." Singers can be as expressive as they need to be without puckering the lips forward, or contracting the jaw muscles, or flexing the muscles under the jaw and behind the chin.

If one studies the greatest singers on film, the "gentle smile", sometimes called the 'open smile', seems to be an integral part of good singing. It allows the mouth to be shaped like an "oval lying on its side", prescribed by the Lampertis and described and taught by their star student, Marcela Sembrich. Caruso said "to keep the mouth well open at the sides." Fernando De Lucia, the "Glory of Italy", considered with Mattia Battistini, to be one of the greatest vocal technicians in history, was criticized during his entire career for maintaining a smile on his face regardless of the emotions being felt by the character he was portraying. Nicolai Gedda kept the corners of his mouth pulled back extremely at all times as did Maria Callas. One notices that Caruso, in the pictures of him demonstrating the proper facial formations for each vowel, kept the corners of the mouth back, even on the "oo" vowel. For those singers who worry about acting, the corners of the mouth being held back should not limit expression at all. The "Janus Mask" allows the corners of the mouth to move slightly up for happiness and slightly down for sorrow.

Never Be Boring

Pulling the jaw downward creates a exaggerated, open space **below the Mask, distorts the shape of the 'megaphone',** and greatly reduces the beauty and projection of the voice. Simply open the jaw downward in an exaggerated manner and try to tell someone you love them. It will sound ridiculous! A vertically open space below the 'Mask' causes the placement of the voice to fall below the 'Mask'. The resonance of the voice will vibrate in the mouth and in the flesh on the insides of the cheeks. This flaw in singing completely eliminates any possibility of expressing different emotions. We all want to be good actors and to never be boring. Is it possible to sing a line with serious meaning if you look like the 'Joker' in the Batman comics? Would you stand on a stage as 'Hamlet' and say "To be or not to be, that is the question.", with your jaw pulled downward in an extreme vertical form? Of course not! You would pull the corners of the mouth back, like all of the great English actors. But many singers pull their jaws down while singing, and not one of them can give us a logical reason why.

Mr. Harrell was a world famous interpreter of Art Songs, and was one of the leading recitalists of his day. His ability to express the most delicate emotions in a song was never questioned. No one ever accused him of being boring or unexpressive because of his loose jaw and his pulled-back cheeks.

Mr. Harrell's rules:

Rule #1: *No action in the throat.*

Deep, silent, and very slow breathing through the nose and into the lower back was practiced (Tetrazzini described it as "smelling a flower".) until the goal of complete non-ado in the throat, jaw, tongue, face and head was achieved. The only parts of the body that were allowed to move were the corners of the mouth, the larynx, and the ribs in the lower back. The larynx relaxed and moved downward as a result of the strength of the inhalation into the lower back. It was not allowed to move unless the inhalation moved it. Caruso said in his book that "the open throat is maintained by the power of the respiration." Deep breathing will open the throat vertically as the air passes through the throat and into the lungs.

The pressure of the breath against the chest while singing, will maintain the open throat, causing the larynx to 'float' in its lowered position. There will be no need to resort to tension of the jaw or to stimulate actions or reactions in the throat muscles to keep the larynx in place while singing. Just as in the case of the ribcage, the larynx should not move unless the inhalation moves it.

Rule #2: *No action in the jaw.*

The freedom of the jaw was assisted by repeatedly moving the jaw up and down and sideways, using only the hand or hands, without flexing the chewing muscles, or any muscles in the area of the throat, especially under the jaw and behind the chin. No muscles were allowed to assist the sideways movement of the jaw. The head was angled upward while the throat was kept in a still, inactive state. No independent action of the tongue was allowed until all the parts of the throat puzzle were under control and completely inactive. The only movements of the tongue were to allow the back of the tongue to descend reactively with the larynx at the moment of the instigation of the deep inhalation, and to allow the front of the tongue to remain in contact with the lower lip at all times, leaving the tip loose and free to articulate the dental consonants against the upper teeth.

Rule #3: *The jaw must be unhinged*

All movements, when exercising the extreme unhinging of the jaw, had to be performed by using the hands to provide the downward pulling force. The chin would be pulled down as far as it would go by using the thumb or index

finger to press it down (not by using the chewing muscles), while trying to maintain a smile. This exercise would cause the jaw to unhinge. It was then **released quickly and completely**, without losing the smile, and without any controlling action of the chewing muscles of the jaw. Unhinging the relaxed, dropped jaw ever wider was accomplished over time, by often repeating the 'joint-stretching' exercise.

The singer, while singing, must not hold the mouth open or closed, by means of **muscular action** (the chewing muscles). Ideally, gravity must be the only force affecting the dropping of the jaw while singing.

Pulling the jaw down using only the hand (the fingers) exploits the natural elasticity of the tendons and muscles, requiring them to let go of any degree of tension or flexing. Some of my colleagues in Europe walked around with an apple crammed into their mouths as far back as possible. This extreme stretching exercise was supposed to eventually stretch the tendons that attach the jaw to the skull. It is not a bad exercise if the mouth is not held open with muscles after the apple is removed. It is one way to develop elasticity in the hinge of the jaw. Simply letting go of the jaw with the head facing slightly upward will automatically allow the mouth to find its natural open position as dictated by gravity. Muscular contractions to help or guide the movement of the jaw were vehemently forbidden by Mack Harrell. The upper part of the face, if all muscles are relaxed, demonstrates the slack-jawed, moronic expression that is ideal in singing. Olga Ryss used to say, "Drop from the eyes to under the jaw, like an idiot!" This may be the reason for the evolution of the 'gentle open smile' while singing. It was the only muscular action permitted in the lower face while singing during the "Bel Canto" era. Perhaps, at one point, the singers realized that some expression would be necessary while singing. The question arose: how can a singer maintain a "live" expression while singing without beginning a chain reaction of tensions in the jaw and throat? The answer was simple. The only muscles that can be activated that **do not react in the throat** are the ones that draw the corners of the mouth back.

Tugging at the Larynx

The positions of the corners of the mouth are crucial if the jaw is to be unhinged, and if the area surrounding the jaw is to be kept totally free at all times while singing. Tension under the jaw can exert a pulling force on the muscles attached to the hyoid bone, causing the larynx to be pulled upward while singing. All contracted muscles shorten their length. The contraction of the muscles under the jaw should never occur. Muscle contractions in the jaw and the throat must be relaxed back to a normal position. Unfortunately, if they are not relaxed, a compromise must be made. The only compromise available to the singer, if the larynx is not to be pulled upward, will be to press

the jaw downward, thus distorting the phonation of the vowels and lowering the resonance from the Mask downward into the mouth cavity and the insides of the cheeks. Peter Glossup (1928-2008) said, "If you open the barn door, the cow will get out!" (If you pull the jaw down and open it extremely, the resonance will 'escape' through the mouth and flow out under the Mask.) He was known as a singer who, like Christa Ludwig, sang with the mouth almost closed.

Try to speak on the telephone to a friend with the jaw pulled downward and see how ridiculous it sounds. This ugly process, amplified by the compression of the breath while singing, makes for a distorted sound, bad diction, severe reactive tensions in the throat, and loss of the resonance of the True Mask.

The Thumb Massage

In order to accomplish the total freedom of the jaw, it may be necessary to practice the following exercise:

position the second joint of the index finger across the chin in the 'groove' below the lower lip

place the tip of the thumb under the jaw (behind the chin) and press gently upward 'into the meat' (against any contracting muscle), using the index finger to provide leverage. Some singers are soft and relaxed in this area, and will not need to practice this exercise. However, most English speakers are not.

If the area behind the chin and under the jaw is firm while singing, it means that muscles are flexing. Singers should practice this 'thumb massage' while singing different vowels and sections of text until the muscles are relaxed and the area is soft. Some singers keep this area as hard as concrete! It will be difficult for them to relax the muscles completely for a period of time. The secret is to massage the area often during the day, whether singing or not, until the muscles finally yield to the soft massaging effect.

The 'Invisible' Goal

The goal is to sing without flexing the muscles behind the chin or under the jaw. The tendency to pull the hyoid bone upward, (for all practical purposes, the singer is more likely to feel that the larynx is being pulled upward), caused by flexing muscles under the jaw, will be resisted by other muscles in the throat, especially if the breathing is too shallow. Tensions and reactions in the throat will reduce the vibrations of the vocal folds. The sounds become thin, nasal and weaker in most cases, and, sometimes, 'chestier' and darker, than the true potential and capabilities of the voice. Remember the old dictum, **"The invisible jaw, the invisible tongue, the invisible throat, and the invisible face."** We must, also, establish criteria for ourselves that include as a priority the "invisible muscles under the jaw" and "the invisible muscles behind the

chin". Our ultimate goal is total freedom of the vocal organ in all its complexities.

Propping' the 'Superabundance'

There is a way to breathe that will create a free, 'invisible' zone in the throat and neck, including the tongue, jaw, muscles under the jaw and behind the chin, upper pharynx and lower pharynx, and epiglottis. Faulty breathing methods create tensions, which cause nasality, a shaking jaw, and, very often, a very visible and disturbing quiver of the tongue. Muscles and ligaments of the entire inner and outer neck and throat will become tense as a result of faulty breathing. Lamperti said: "all problems in singing arise because of mismanagement of the breath."

The method of breathing used by Caruso, Tetrazzini, and Lilli Lehmann is very clearly described in their books. These books should be required reading for all students of singing and all teachers of singing. Caruso said to "draw the abdomen in while breathing and raise the chest, and do a contrary motion while singing". Lehmann said to pull the abdomen in by using the "breath jerk" (jerk the abdomen inward an instant before inhaling), and to relax the abdomen outward while singing, keeping the pressure of the breath against the chest. Tetrazzini, in her book, goes into great detail about breathing into the lower rear quadrant of the lungs and, directs us, on the attack of the tone, to use the "breath prop" against the sternum. The Italian term to describe the pressure of the breath against the chest is "appoggio" (leaning). Translated literally, it means "lean" or "leaning", as in propping a ladder against a wall or leaning against anything that can take the whole weight of a person or thing. In German it is "sich hinstuetzen" (to lean oneself against something). "Keep the pressure of the breath against the sternum at all times" Tetrazzini advised in her book. She then emphasizes that it is essential for the jaw to remain completely loose while singing. She practiced in front of a mirror moving her eyebrows while keeping the jaw completely "dead" in order to give the upper face different expressions without allowing tension to occur in an area crucial to the freedom of the tone. She advised singers to "never get upset or cry. It will cause tension in the jaw and you will not be able to sing". Lehmann called for "constant pressure against the chest while singing", which she referred to as "stopping the breath" (the German word is Atemstauen, but "sich hinstuetzen" is closer to the Italian meaning of "appoggio").

"Propping" the breath against the sternum or the chest was the ultimate method for controlling the accumulated breath held in the lungs that could not be utilized by the vocal folds, called the "superabundance of the breath" by Manuel Garcia II in his book, "Hints on Singing". Any breath not required to

produce the desired tone must be restrained while emitting only the amount of air necessary.

'Spilling' the Breath

The great singers had one thing in common. They all 'leaned' ('stopped', 'propped', 'pressed') the breath against the chest while singing. Most singers send too much air upward against the larynx while singing, usually caused by pulling the belly inward during the emission. This use of the abdomen causes tension in and around the throat, because excess breath that cannot by utilized by the vocal folds must somehow be controlled (restrained) until needed. Some singers allow the chest to collapse while singing, which 'spills' breath out of the lungs and up against the throat. Not only must the muscles of the throat compensate for the excess air released against the larynx, collapsing the chest is often the cause of singing under pitch, particularly at the end of phrases.

Inward Bowing and Backward Bowing

Both of these methods (or mistakes), pulling the abdomen inward or collapsing the chest, have often been disastrous for certain singers who have tried to use them. Videotapes of Maria Callas and Franco Corelli towards the end of their careers show them singing with collapsing chests, bowed necks, and exaggeratedly bulging abdomens, which allowed their "points of leaning" to wander downward into the extreme lower reaches of the air column. This method seems to work for a time, making the voice fuller because of the increased depth of the air column, but causes the singer to lose the ability to sing lyrically or to be able to execute coloratura singing or use of the mezza voce. This approach, which, if the chest were held in a high position, would resemble a 'dead drop' type of 'lean', differs from the Bel Canto style of breath support, which required that the chest be kept up and out and perfectly still while singing, with the pressure of the breath against the chest at all times. Collapsing the chest tends to make the head lean forward, leading to the notorious "bowed neck" method of singing.

Christa Ludwig sometimes collapsed her chest while singing, creating a bowing inward effect of the chest. But she compensated by **bowing the upper back outward and to the rear, and pressed her breath against her middle spine**. The shoulders would tend to come forward as the chest would sink in. This created a kind of backward-bending "breath stop," placed directly opposite the sternum around the 6^{th} or 7^{th} thoracic vertebra. Her method of support worked very well during a long career. Callas, towards the end of her career, changed the function of her chest from her earlier days, from holding it up and not allowing it to sink or move, to using the "sinking chest" method while searching for more volume and a deeper color in the voice. This would

create a slight bowing of the upper back, also, and allow the shoulders to move forward instead of holding them back. Her bowing of the back was never as obvious as Ludwig's, who seemed to deliberately lean into her back. Callas utilized the bowing of the neck to compensate for the shoulders. Ludwig never bowed her neck or arched her neck: her sinking chest was particularly obvious on long, sustained, dramatic phrases. The audience members could clearly see that she was actively bowing her upper body backwards, not at the waist, but in the middle of the back, controlling her breath in a way that was opposite from the usual, chest forward, and outward leaning technique employed by Joan Sutherland, Zinka Milanov, and Luciano Pavarotti.

The Gandhi/Mother Teresa Technique

This used to be a popular subject for discussion among voice students in Vienna, where the "crushing" of the chest downward and inward while pushing the upper back backward and outward was the most popular new way to control the breath while singing. Although they often looked a little odd while singing, especially during extremely difficult moments in a performance, Waldemar Kment (1929-) and Anneliese Rothenberger (1924-2010) used this vocal method with great success at the Vienna State Opera. The secret to their success may have been that the **inhalation** method, drawing the breath deep into the lower back while collapsing the chest, resembled, at least, a part of the function recommended by Tetrazzini. The great Italian singers always raised the chest while inhaling, in order to create a larger 'drum'. The "downward and inward" collapsing ('crushing) of the chest during the inhalation, so actively practiced in the "Viennese School," reduced the size of the 'air-bucket (the 'drum'). The loss of resonating space in the body caused the voices to have less amplitude than that provided by the 'open chest' method, and limited the repertoire of singers who applied it to the lighter roles in opera and operetta. The 'crushing' of the chest continued in the imagination (and sometimes literally) during the emission of the voice. The concept of 'singing is inhaling' was practiced as literally as possible. The German word for warming up the voice is 'Einsingen', which means 'in-sing'. The whole concept of singing inward and not outward can be established psychologically as one begins the warm-up of the voice. The singers looked comical sometimes while warming up their voices in their "Gandhi/ Mother Teresa" postures. When they used the collapsing chest method on stage, they sometimes looked ridiculous, all bent over and trying to hide what they were doing by acting! Maybe they survived vocally because they sang only light, lyric roles. When Callas and Corelli began to sink their chests downward and bow their necks in their dramatic roles, they did not survive as singers for very long.

Covering Many Possibilities

It was not known if Christa Ludwig had actually learned to sing with this method during her vocal studies, or if it was a trick she discovered that let her sing music written for soprano. She always kept the corners of her mouth extremely back, forming what seemed to be a 'slit' with her lips through which she sang her vast repertoire. She used the mouth shape and the breathing into the back in common with Callas. Although Ludwig's natural voice was a high mezzo-soprano, she could sing a number of dramatic soprano roles in a repertoire that was high for her natural voice, and she did them beautifully! She sang some of her more difficult concert pieces, including excerpts from operas, at the Musikverein in Vienna. I heard her sing the "Immolation Scene" from GOETTERDAEMMERUNG by Wagner. However, I heard her most often at the Vienna State Opera. Her technique worked for her very well in both Mezzo and Soprano repertoire. She was the best "Donna Elvira" in Mozart's DON GIOVANNI I ever heard. She had no problems singing it or the "Immolation Scene". My favorite role she sang was "Eboli" from Verdi's DON CARLO, the most difficult role in the mezzo repertoire because of the high, dramatic notes in her famous aria, "O don fatale". She had no discernable problems with any of these huge roles, and she could change over to a lighter mezzo role, like "Cherubino" in Mozart's "Marriage of Figaro", and sing it perfectly. However, in dramatic phrases, she used the bowing of the upper back and the sinking chest in a very extreme way, almost bending over double toward the end of some of the longest, most difficult phrases.

'Leans Sometimes Change'

All of the singers mentioned above used a 'leaning method' of some description. It was very visible in some singers and invisible in others. We have to go by the explanations revealed in their books or in interviews, or simply by observation of the physical movements manifested by the various approaches to singing, to ascertain as clearly as possible how they sang. The breathing and leaning techniques utilized by the 'super stars' allowed the jaw to remain completely loose while singing.

Because they all had a breath control method that didn't allow the breath to rise into the neck or throat, the jaw could remain 'unhinged' and totally uninvolved in the emission of the tone. They "leaned the breath" against the chest, midriff, abdomen, or the upper back, using the "breath prop" as a technique for controlling the steady emission of the voice. Interestingly, the earliest films of Callas, Corelli, and Ludwig, show them maintaining a steady, high chest position that did not collapse while singing. Perhaps the frequency of performances of dramatic roles forced these Artists to experiment with different support techniques.

Franco Corelli was a singer who stood like a statue with perfect control of his chest, head and throat when he first came to New York. His voice was a marvel, as was Callas' during the earlier part of her career, before she lost so much weight and began to sing the heavy, dramatic roles. Both of these singers changed their breath support techniques during their careers, from keeping the **chest still** and **collapsing the lower back**, to **collapsing the chest into the abdomen** while singing. They both allowed collapsing of the chest and bowing of the neck forward with the head tilting downward to become part of their vocal production as they began to include dramatic roles in their repertory.

To Collapse or Not to Collapse

We must accept the fact that, when singing, the emission of breath required to produce the voice will be reflected by a **collapsing function somewhere in the torso**. The lungs are surrounded by the ribcage. As the lungs lose air, some part of the ribcage, or the belly under the ribcage, must yield to the loss. George London made an issue of the ribs in his Master Classes. "The ribs should not move unless the inhalation moves them, and then, only in the lower back. They should close in the lower back as the breath is used for sustaining a tone. The chest and the belly should never move, whether inhaling or exhaling. The chest should be held in an up and open posture and remain perfectly still while either inhaling or singing."

The idea of opening the upper ribcage and holding it open in a sideways posture while singing has never been recommended by a great singer from the past. The breath must be allowed to flow freely and directly from the lower back, through the throat, without any change of emission or resistance to the emission. The question is, which part of the torso, as reflected by visible movement or sensed muscular action of the body, should the singer allow to collapse? Which part of the torso did the greatest singers allow to collapse?

Yielding or Squeezing

The area of the lowest ribs in the back, as recommended by the greatest singers and most successful teachers of the Bel Canto era, is the most efficient part of the "air box" to allow to collapse while singing. According to their books, and according to most of the contemporary reports, quotes, and comments that have come down to us from those days, the 'yielding' action of the ribcage, or, as described by Caruso, the "squeezing" action, was in the lower ribs in the back. Caruso describes it very clearly as 'like a bellows'. In his book, he describes the correct action of the ribcage as follows: "The lower ribs in the back function like a bellows: they open when inhaling and squeeze together when singing". The simple fact is that the breath for singing must come from

somewhere, and something must collapse while singing. As far as we know, the lower back was the only part of the 'air-box' that was allowed to collapse during the 'Golden Age of Singing'. The chest, during the emission of the voice, was held in a high, open position and perfectly still. It was not allowed to collapse to 'feed' the emission of the voice. Olga Ryss described the function of the chest as "hanging from four chains, suspended in mid-air, without the possibility of dropping or collapsing." The lower belly and the chest were directed to move ('lean') **outward during the sustaining process.** The pressure of the breath created by the closing of the lower ribs in the back was 'pressed' against the chest. No pulling in and upward movement of the abdomen was allowed.

The Open Head

Maintaining the position of the head in a tilted up and back posture, facing the second balcony, was considered the most efficient use of the 'megaphone' in the throat. Tetrazzini said to "tilt the head up and back in order to open all of the resonating cavities of the head". Singers should study photographs of the great singers caught in the act of producing tones. Every picture we have of Caruso singing shows him with his head up facing the second balcony. The corners of the mouth were kept back as in the position of the 'open smile', which contributed to the unhinging of the jaw and the opening of the throat. Singing into the nose was not allowed, nor was any tension in the jaw or the tongue. Caruso said, "You can breathe through the nose, but never sing through the nose."

Great singers who had long careers kept the chest high, level, and still. The belly was never pulled in while singing, but allowed to relax downward and outward. Caruso's "bellows' would, of course, require that the belly be dropped ('leaned') forward, outward, and downward. This is exactly what a baby does while crying. I have four beautiful children whose breathing methods were studied from every angle when they were babies. They all cried exactly the way Caruso described the breathing and "support" method he used to produce the greatest voice in history, with their tummies going outward while making sounds.

The Purification of the Throat

Marcella Sembrich (1858-1935) was the star pupil of both Francesco Lamperti (1811-1892), and his son, Giovanni Battista Lamperti (1839-1910). Giovanni dedicated his book, *The Technics of Bel Canto,* to her. Sembrich, after a long career as the 'second Adelina Patti' (1843-1919), taught at the Curtis Institute of Music in Philadelphia after her retirement from the stage. Later she taught at the Julliard School in New York. Known as the greatest exponent of the

"Lamperti School" of Bel Canto singing, she made a phenomenal career as one of a few superstars of opera in the world at that time. Her teaching reflected what she had been taught by the great Italian masters of the Bel Canto style of singing. The main concepts she taught were breathing, the looseness of the jaw, and the shape of the mouth while singing. She insisted that every singer use a mouth form she called, "the oval lying on its side", as the permanent shape of the mouth and the throat while singing. Unhinging the jaw was accomplished by pulling the corners of the mouth back. The jaw was kept loose, and the oval shape of the mouth and the throat were kept open by deep breathing into the lower back. The moment of inhalation was the moment of "purification" of all and any muscular activity in the jaw or throat. (Dame Eva Turner used the same word during her discussion of the 'invisible throat'.)
Sembrich made her debut at age 20 and was immediately recognized as Patti's successor. One of her students was Florence Kimball, the teacher of Leontyne Price. It can be seen on Youtube how Price sang with the corners of the mouth back and the lower lip protruded, in order to create the 'oval lying on its side'. The performance career of Marcella Sembrich lasted 37 years without any vocal problems! The emphasis on the jaw was not unique to her approach to singing. It was a major consideration all through the Bel Canto era by singers and teachers.

Obsession Recommended

In summation, the relaxed, unhinged jaw is essential to good singing. It should be accorded the importance it requires by all those who desire to sing well. The jaw is important because it affects so many parts of the vocal process. The best way to learn to sing with the "invisible jaw" is to develop a breathing method that will relax the jaw instead of causing tension in the throat. The dedication necessary on the part of the singer to the total looseness of the jaw cannot be exaggerated if freedom of the jaw is to be achieved. The alternative is a tight, flexing set of muscles around the jaw that will prevent the throat from opening, and have only negative effects on the sound of the voice. Obsession is, in this case, to be recommended. For some singers, the only way to get the jaw to relax will require an obsession with the freedom and 'invisibility' of the muscles that surround the jaw.

Measured in Decades

I would advise singers to watch films of the greatest singers they can find, to study the methods of those singers, and, in particular, the methods of breathing and phonation being employed. Some singers do one thing better than another, and fame is not necessarily the best recommendation. There are many fantastic vocalists who have not achieved the international stardom their talents

deserve. Some of them are incredibly admired in their geographical areas of activity. Helen Donat, Mimi Coertze, Lucia Popp, Anton De Ridder, Nellie Dutoit, Hans Van Heerden, Frederick Dahlberg, Cristina Deutekom, Paul Schoeffler, and countless others were superb artists. Any of them can safely be studied as examples of great singing. They should be sought on recordings and on Youtube to discern the good points of the very best. We must judge the best singers, not by the degree of their popularity with a fickle public, but by the beauty of tone, the longevity of career, the outpouring free vocal style, and their ability to sing high, low, loudly, softly, fast coloratura, and sustained phrases, and do it all without making weird faces, puckering the lips, grimacing, shaking the jaw and tongue, singing through clenched teeth, or wrinkling the parts of the face. It other words, their ability to fulfill the criteria of the music and remain healthy, over a period of time measured in decades, is one of the best ways to evaluate the vocal technique of a singer.

A Consensus of Opinion

Of course, we all have our favorites. There are singers who appeal to music critics, but not so much to the general public. Some singers appeal to the general public, but not to the music critics (Franco Corelli). Some singers appeal to the public and to the critics, but the management of the theater may not like them, and no one knows why. A few singers are appreciated by their colleagues. There is no doubt, that the one singer who appealed to her fellow vocal Artists and to the public more than any other during the 'Bing era', (Sir Rudolf Bing, 1902-1990, the General Manager of the Metropolitan Opera from …….) in spite of the fact that they did not like her as a person, because of her difficult personality, was Zinka Milanov.

The greatest vocalist of the modern era was, without a doubt, Zinka Milanov. This statement is easy to make for those of us who heard her live. She could do it all, fulfilling the vocal requirements of the most difficult dramatic soprano roles with the most beautiful voice in the world during her era. She did it in exemplary fashion, with absolute freedom of the throat and jaw, well into her 70s while maintaining the highest level of vocal artistry. When Zinka sang a performance at the old Met, every famous singer who happened to be in New York was in attendance! Jerome Hines and George London both thought Zinka was, without question, the best singer in the world. Lucine Amara (1924-) compared Milanov's standing among her colleagues with the stories of Rosa Ponselle's dominance of the vocal scene back during the 1920's. Amara, trying to explain her assessment of Zinka's voice and vocal artistry, quoted Geraldine Ferrar's famous answer, when asked how to get a voice like Rosa Ponselle, "…by special arrangement with God!" Robert Merrill thought that

Milanov was unique. Her voice was the most beautiful and powerful voice in he world, and she was the absolute best, most reliable singer he ever heard.

Only One

In 1962, the old geezers at "The Metropolitan Opera Club" in New York, many of them in their seventies an eighties at the time, were asked if any of the current singers at the Met could have been a star during the 'Golden Age' of singing? They had been listening to opera since around 1900 in some cases, having heard Patti, Caruso, Ponselle, Titta Ruffo, Luisa Tetrazzini, Fyodor Chaliapin, Helge Roswaenge, Kirsten Flagstad, Lauritz Melchior, and all of the stars of that period. And, of course, they had heard all of the famous stars on the current opera scene, including Renata Tebaldi, Richard Tucker, Maria Callas, Regine Crespin, Franco Corelli, Birgit Nilsson, Mario Del Monaco, Leonard Warren, Cesare Siepi, Leonie Rysanek (1926-1998), George London, and many others. They certainly had a good basis of experience for forming an opinion. The surprising answer they gave to the question was unanimous; "…Only one modern singer could have been a star during the 'Golden Age', and it is Zinka Milanov".

Vocal Freedom

I can only advise young singers to study any recordings and films of Milanov's singing they can find on film. She was a great example of what we should all aspire to achieve with our voices and our Art. I don't mean to suggest that any young singer should imitate any other singer, no matter how famous the 'star' may be. However, it is good to study the very best, and compare what we know about singing with what they were doing when they sang. The criteria of good singing have been listed in this book. They are there to be understood and accepted or misunderstood and rejected. In the end, it is, as it always has been, up to the individual artist to decide what is good for him/her or not good for her/him. At least, the advice I have given has its sources based on the actual concepts, and applications of those concepts, by the greatest singers in history. I can only hope that it may help some young artist along the way to vocal freedom.

L'APPOGGIO

(THE 'LEAN' OF THE BREATH)

'***Appoggio***' ('Lean' in the Italian language) is the word used in Italy since the Golden Age of *Bel Canto* (the golden age of beautiful singing) to describe the biomechanical process that controls the breath while singing. In the German language the word 'Atemstauen' is translated by Lilli Lehmann (1848-1929) into English as 'breath stop'. Another common term used by German singers of the past generations to describe a 'support method' is 'Staumethode' ('stopping' or 'jamming' method). A more literal translation of the German verb, 'stauen', would be 'hold back' or 'not allow to continue,' or 'to jam' as in traffic-jam (Verkehrsstau). A dam in a river is called a 'Staudam'. Modern terminology used in Germany includes 'Stuetzmethode' (support method) and 'Verhaltungsmethode' (restraint method').

"Lean, Lean, Lean!"

When I taught in Munich and Vienna, I used the terms 'sich hinlehnen (lean itself against…) to describe the 'lean' (pressure) of the breath against the diaphragm. Unfortunately, there is no clear equivalent in common use in English that describes the breath control method used by professional singers in Italy or Germany. Most English speaking singers and voice teachers, unless they have been trained in the Italian or German vocal style, use the terms 'support' or 'breath support'. Luciano Pavarotti (1935-2007) was searching for the proper English terminology in a Master Class at the Juilliard School when he said, pointing to his lower chest, "…It is here like a baby---Push, push, push" (He indicated with his hands that he clearly meant to push the breath outward against his lower chest while singing). I asked him after the class if he had meant to use the English equivalent of the Italian word, 'spingere,' (to push) when he

recommended that singers "Push, push, push" the breath against the lower chest. He laughed when he realized that he had used the wrong word. He said, "Oh, no! I meant to use the same in English as 'appoggiare' (to lean). I had forgotten this difference in the English. I should have said lean, lean, lean!"

There is a definite need to clarify the differences in use and possible interpretation of these terms. "For every action there is an equal and opposite reaction." The reactions to 'push' and 'lean' are completely different. Mattia Battistini (1856-1928), when asked what he thought about when he sang, used another description of the activity of the breath. He said, "I press my chest." We need to find out for ourselves which terms are the best ones for singing. What combinations of actions and reactions, that inspired in some cases phenomenal successes with terminology like 'breath support', the 'lean', the 'jamming method', the 'breath stop', the 'breath prop', or the 'pressing method', have been recommended by the greatest singers in history?

To Strike a Note Clearly

Singers do not need all of the air in the lungs to initiate a sound. However, we will need the breath that remains in the lungs after the attack if we sustain a tone or sing a long phrase. How should we control that excess air until it is needed? How do we instigate a note without releasing more air than the tone requires or can utilize? Many old books written by teachers of singing in Italy during the 19th century devote whole chapters to the 'attack' of the tone. The choice of the word 'attaccare' or 'l'attacco' in Italian leaves room for interpretation. It can mean 'attack', as in a battle. However, its several other definitions, and the ones we are looking for, are "to attach, to bind to, and in music, 'to strike a note clearly.' A small difference in interpretation can have a devastating effect on the voice. Any 'strike' or 'stroke' of the breath against the vocal folds is dangerous to their health. The sense of the word 'attack' in common usage in English does not suggest a gentle movement of the breath against the vocal folds! In German, the word 'Angriff' ('attack', based on the verb, 'angreifen' (to grasp or grab at something), is never used in singing. To 'grasp at' is not a very good concept when

beginning a tone with the voice. The word used among singers in Germany for the beginning of a tone is 'Ansatz' (at set), from 'ansetzen', based on the verb, setzen (set it, or place it, as in 'set it against something). In Italian, it is better to use the first translation given in the dictionary…to 'attach'. The Italian teachers and coaches I worked with would not allow a 'sharp attack' of a tone. Every note had to be calmly and steadily 'attached' to the diaphragm without accent or a perceivable, sudden release of energy In singer parlance in Italy, 'attacare' meant "to attach" or to "bind" the breath to the diaphragm by way of gentle, steady, pressure of the breath (the 'appoggio' or 'lean') against the lower chest. This translation is perfectly accurate, and much less dangerous than our English concept of 'attack', and we certainly don't want to 'grab at' the voice. But, even with a clear understanding of the word, 'attacare', it is still not as safe as the word 'appoggiare'. The word 'appoggio' has been used in the Italian vocal literature for generations as the concept of how to control the breath for the 'attachment' of the breath to the diaphragm. Luisa Tetrazzini (1871-1940) described her 'breath support system' as being like 'a ladder leaned against a wall". She used the term 'appoggio' and her English translation of the the term, 'breath prop' constantly in her book.

The second most important word for a singer to understand is 'legato'. 'Legato', created by a continuous 'leaning of the breath', describes a process that creates an uninterrupted emission of the voice. It allows the tones to be 'tied together' or 'bound together', with no space between musical or psychological or physical entities (two notes in a phrase or a word).

As Lightly as Possible

The exercise known as 'la messa di voce' ('the measure of the voice') was commonly used to develop the steady pressure of the breath against the lower chest. It was a crescendo/decrescendo exercise, starting the tone as lightly as possible (in men's voices, a falsetto was used), and gradually pressing the breath against the front of the diaphragm (the lower chest). Equalizing pressure of the breath against the chest (the 'appoggio'), exactly in proportion to the resistance of the vocal folds as their vibrations became more intense,

was increased until the volume had reached its maximum, comfortable level. At no time was tension in the throat allowed or acceptable. The pressure of the breath against the chest was then sustained as necessary, while the tone was gradually reduced back to the quietest possible sound that did not 'crack' or slip out of control. This exercise was repeated over and over until the 'appoggio' was clearly identified and usable in performance.

One Long Crescendo

We must not dump (release, push, squeeze) all of the air in the lungs against the larynx on the first note of a phrase. The 'superabundance of the breath' (Manuel Garcia ll, 1805-1906), the 'massive respiration required for great singing' (Enrico Caruso, 1873-1921), is restrained in the lungs by the 'appoggio' (lean of the breath or pressure of the breath against the lower chest) until it is needed. The emission (l'emissione') of the breath used to produce the singing voice is no more than a tiny, constant, uninterrupted stream (l'emissione). The 'emissione' is so small that the singer must be able to hold a lighted candle in front of the mouth while singing without the tiniest movement of the flame. Some singers have enormous breath capacity that allows them to 'spin' out a tone that seems to go on forever! Joanna Porackova once sustained a high 'A-natural' for 86 seconds without any loss of volume or color. Franco Corelli (1921-2003) held the high B-flat in the second act of Puccini's Tosca ("Vittoria, vitooooooriiiiiaaaaa") at his Covent Garden debut performance for 17 seconds! There is a recording of Lauritz Melchior (1890-1972) holding "Waelse, Waelse" from the first act of DIE WALKUERE by Richard Wagner for 21 seconds (the first 'Waelse)' and 19 seconds (the second 'Waelse'), respectively! Mario Del Monaco (1915-1982) sang "…sul tuo amor infrante" from PAGLIACCI by Leoncavallo without breathing during the phrase, and at the slowest tempo ever recorded, surpassing even Caruso in the length of the phase. Fernando De Lucia (1860-1925) on his recording of "Amor di lieta" from Umberto Giordano's (1867-1948) FEDORA, started the aria with a beautiful, caressing pianissimo at the beginning of the vocal line, and sustained one long crescendo over the entire length of the aria, until he reached a gigantic fortissimo on the last phrase!

Behind a Door

The greatest example of breath capacity and 'appoggio' I experienced in a live performance was at the old Metropolitan Opera. Zinka Milanov (1906-1989), on the last note of the 'Nile Aria' in Verdi's AIDA, 'attached' the high 'A' pianissimo, and held it with her head tilted up and back, facing the upper balconies, until the orchestra finished. But wait! She was not finished! While continuing to sustain the ravishing, perfect note, without the musical support of the orchestra, she turned slowly and walked upstage. She continued to hold the note as she exited the stage behind the curtain, and made her way to her dressing room, still holding the high 'A' with absolute security. I was so flabbergasted that I completely forgot to time the total length of that incredible note! It was the most extraordinary feat of breath supply and 'appoggio' I have ever witnessed in any singer! Needless to say, the audience went completely insane, screaming, stomping their feet, running down to the front of the auditorium and throwing flowers up onto the stage! It was an unforgettable moment.

Smart Sopranos

'Massive respiration' (Caruso), which meant extreme breath capacity and powerful strength of the inhaling process in the lungs, diaphragm, and rib cage, and sustaining strength in the diaphragm and the muscles of the lower rib cage in the back, allowed magnificent singers to sing the most difficult roles in the repertory reliably and with relative ease. Joanna Porackova is one of only two sopranos since Lili Lehamnn (1848-1929) to sing both Wagner's "Isolde" Bellini's "Norma"! The other soprano, equally fantastic, is Rebecca Copley, another miracle of breath supply and vocal technique. Smart sopranos who want to become great singers should consider consultations with either of these true "Prime Donne", for advice about how to sing a vast, disparate repertoire without any signs of effort!

Coloratura plus Splendor

Lilli Lehmann (1848-1929) was famous for her extraordinary long phrases without loss of projection or expression. That is one reason she was considered the greatest "Isolde" of her era. Her breath supply seemed endless. She could fulfill the criteria of Richard Wagner's (1813-1883) music like no other soprano until the arrival of Kirsten Flagstad (1895-1962) on the scene. Flagstad had her own seemingly endless supply of breath that allowed her to portray the heroines of Wagner with a tremendous voice of incredible width and amplitude and effortless vocal splendor. We are grateful that this extraordinary vocal artistry is not lost. Porackova and Copley both sing the heaviest roles in the soprano repertoire with their enormous, beautiful voices with no problems at all. They also sing roles that require great coloratura facility, like "Donna Anna" in DON GIOVANNI of Mozart (1756-1791). Their breathing and 'leaning' methods are thorough and exemplary. Young singers should do all they can to hear them and coach with them if possible.

Athletic Lungs

Development of breath capacity is definitely possible. It has its own concepts, motivations and practices. Time and techniques, including Yoga, swimming, playing a wind or brass instrument, and specific breathing exercises dedicated specifically to the development of breath capacity and diaphragmatic strength, are required if we hope to emulate Caruso's "massive respiration necessary for great singing".
What do we know about the hobbies and physical activities of certain singers? Copley, like the great Mezzo-Soprano, Ebe Stignani (1903-1978), and the 'natural phenomenon', Adelina Patti (1843-1919), had her breath capacity naturally, as a gift of God and nature, without having to develop it. However, there are ways to develop the strength and capacity of the breathing system. Some of the greatest singers in history were exaggeratedly devoted to activities that

encouraged the development of a 'massive' breath capacity. Porackova has been an devoted swimmer since childhood. She is amazingly advanced in this breath-developing sport. Caruso, Nellie Melba (1861-1931), Jerome Hines (1921-2003), and Joan Sutherland (1926-2010) were all ocean swimmers. Beniamino Gigli (1890-1957) was a saxophonist. Ezio Pinza (1892-1957) was a professional cyclist. Pavarotti was a soccer player and tennis player. Kim Josephson was a tuba player. Nikolai Ghiarov (1929-2004) played trombone and clarinet. Fritz Wunderlich (1930-1966) was a French Horn player. Robert Merrill (1917-2004), and Helge Roswaenge (1897-1992) were advanced Yoga practitioners. You get the idea! Extreme breath capacity rarely happens without some systematic form of exaggerated breathing activity in the life of the singer. Caruso's "massive respiration" was no accident. His pianist, Salvatore Fucito (1875-1929), said in his book that "Caruso went every day, no matter the weather, and did his 40-step walking/breathing exercise: he walked 10 steps, inhaling silently through the nose as fully as possible, with the abdomen moving inward; he then walked 10 steps holding the massive inhalation in the lungs while holding the abdomen in; the next 10 steps were spent exhaling through the mouth with the abdomen moving outward and the breath pressed against the chest, and the last 10 steps of the 40 step exercise were spent with the lungs squeezed empty, leaving the abdomen in a dropped out position and the chest held high.

This exercise was repeated over and over while walking for 11/2 hours every day! He was devoted to it, in spite of the great development of the breathing capacity he had already accomplished during his childhood, by swimming and diving in the Bay of Naples.

The Most Precious Possession

Some extraordinary singers, like Adelina Patti, Ebe Stignani, and Rebecca Copley, seem to have been born with everything needed to compete on the world stage. The rest of us aspiring mortals must spend our lives trying to perfect the Art of Singing through diligent, repetitive, physical, technical, and musical exercises, and plain dedication to hard work. And there is no doubt, that the greatest single asset a singer can possess is a developed breath capacity. It is essential for anyone aspiring to a professional singing career in big theaters with big orchestras.

Common Sense

I have been asked an interesting question many times by singers and coaches. If the breath capacity is large enough to provide the sustaining ability for long phrases, why should singers continue developing an ever greater breath supply? The answer is obvious. It has to do with the quality of sound a voice can produce. Compare a bongo drum with a congo drum, or a snare drum with a kettle-drum. The greater the capacity of the enclosure which contains air (in the case of a singer, the lungs, which need a large space inside the ribcage in order for them to expand to their fullest potential), the fuller and richer the tone will be if that air is set into vibration. The voice responds to the same rules of acoustical science as any wind instrument or drum. Compare a piccolo to a flute, or a trumpet to a trombone. Extreme breathing development will enlarge the chest and the 'air box' in the chest, and will provide a greater amount of vibrating air in the lungs. The result will be an increase in the amplitude of sound, and an enhancement of the richness and beauty of the voice. This fact is based on simple logic. The greater the amount of vibrating air in the lungs, the bigger and richer the voice will be.

The Piper Will Be Paid

How do we control the breath capacity we have worked so hard to develop, and prevent air from leaking into the throat and overwhelming the vibrations of the vocal folds? Is there a method of breath 'support' (control) that will allow the vocal folds to remain totally free and unencumbered by excess breath, in spite of the "massive respiration necessary for great singing" (Caruso)?
It is definitely possible to control lungs full of air while beginning or sustaining a phrase. The lungs can contain amounts of breath that are far in excess of that needed to instigate and sustain musical tones and phrases with the voice. Singers who run out of breath easily have not developed sufficient breath capacity, and, sing with a thin,

uninteresting sound, or struggle to complete long phases. Singers often make the mistake of allowing breath to escape through the vocal folds while singing. Unrestrained breath, that leaks or 'leans' against the vocal folds, not only exacerbates the problems already inherent in dealing with an inadequate breath supply, but also deadens the free vibrations of the folds, and, unless brought under control, can damage them permanently. When Adelina Patti, considered the greatest example of perfect vocal technique by her peers, was asked what she knew about vocal technique, she answered, "Nothing. Just don't sing with a breathy tone!" There is no better answer.

The same situation applies to actors who must be free in the throat in order to express their interpretation of a role. In live theater, breathiness will prevent the sound of the voice from projecting into the auditorium. It will eventually cause hoarseness and can lead to damage of the vocal folds. Can you imagine performing "King Lear" without knowing how to control the breath? Many actors and singers develop nodules on the vocal folds. This condition is caused by chronic breathiness and/or forcing the pressure of the breath against the closed glottis, while making dramatic effects with the voice. No performer can sustain long, arduous roles in live theater or in the opera, depending only on luck and youth. We must all pay the piper, and this piper requires equalization of the pressure of the breath against the vocal folds by using the 'appoggio', and control of the steady, emission of the breath for hours at a time!

Questions with Obvious Answers

Will the breath control process recommended by Caruso, Tetrazzini, and Lehmann allow the throat to remain free while singing?

If we breathe the way the greatest singers recommended, will we be able to sing without using the muscles of the throat or the muscles under the jaw as control mechanisms?

Should the 'appoggio' method of breath control (closing or 'squeezing' the muscles of the lower ribs in the lower back in order to maintain the pressure of the breath against the lower chest while singing) become our 'vocal technique?'

Will the voice be automatically 'focused' by using the 'appoggio' method of breath control, without having to resort to nasality?

Can we completely give up the concept of narrowing ('focusing') the voice in the nose?

The answers to the above questions are yes, yes, yes, yes and yes, respectively. The method for controlling the breath while singing, that leaves the throat completely free, is clearly described in the books written by Caruso, Lehmann, Tetrazzini, Manuel Garcia ll, and Giovanni Battista Lamperti (1839-1910).
Singers today are using many different combinations of muscular applications for regulating the emission of the breath. Our point of departure begins with actions muscular actions that occur in their throats. The main concern of the singer should be to prevent action in the throat while inhaling and while singing. We must learn how to obey the first rule of the *Bel Canto* style of singing:
No action in the throat!

Common Aspects

How did the greatest singers in history describe their sequential thinking processes that produced the most fantastic voices in history? How did they describe the way they inhaled, and how did they describe the way they controlled the breath while singing?
It is noteworthy that the inhaling and breath control methods described had aspects in common with each other. The most striking criterion they shared was inhaling into the lower back, and the "contrary motion" of the breath at the instant of attack of the tone.
Caruso said, 'to never try to sing while still breathing in." The 'suspension' or 'restraining ' technique, so popular among Liedersaenger ('song-singers'-singers who specialize in songs written by composers who attempt to create a work of Art as opposed to a piece designed to entertain.), requires a continuation of the inhalation process while singing. The 'Verhaltungsmethode' (restraint method) requires a lateral (sideways) pressure against the upper ribs to prevent the release (dropping) of the breath while singing), instead of

a 'leaning' of the breath and steady pressure of the breath against the lower chest. The 'restraining method' or the 'suspension method' would not have met with approval from Caruso, because it functions like a continuation of an inhalation that is high in the ribcage, with the drawing in action directed against the inside of the upper ribs which are flexed outward to the sides. Caruso's method, according to his own words, functions like a 'stopped' exhalation. The "appoggio" (the 'leaning', the pressure of the breath, taken from the lower ribs in the back and pressed against the lower chest) was the concept common to many great Italian singers of the past, and to some of the greatest German and French singers who studied and sang during the 'Golden Age' of Bel Canto. Frieda Hempel (1885-1955) was an example of a fabulous German singer who used the 'appoggio' method. Her approach to singing is described in her book, "My Golden Age of Singing", described an Italian vocal style based on exaggerated inhalations and the 'appoggio'.

Long Careers

If we study the requirements of the music written for singers in of the great operas composed by Verdi, Puccini, Donizetti, Bellini, Ponchielli, Massenet, Bizet, and Thomas, we begin to realize one fact: they were writing music for fantastic vocalists. They couldn't have written music with the extraordinary vocal demands in their operas unless they knew that there were singers who could actually perform it. Who was going to be able to sing a title role that would be four hours long, with 49 high B-flats, 9 B-naturals, and dozens of dramatic high 'A's and endless 'G's an 'F-sharp's? These are the requirements in Verdi's opera, DON CARLO? For whom was he writing? The expectations of the composers were unbelievably difficult to fulfill. But, a vocal method had been discovered that would develop singers into vocal giants. They were able to sing high, low, and make endless musical effects with their voices, like coloratura, staccati, martellati ('hammered notes'), mezzo voce, fortissimo, and a true pianissimo in any range of the voice that would project into any theater in the world, and they could do it for hours at a time. Someone asked Birgit Nilsson (1918-2005) to name the most important consideration for a singer who wanted to sing the operas of Richard Wagner. She

answered, "A good pair of shoes." Many singers were able to sustain careers that often lasted fifty years: Mark Reizen (1895-1992), Lucien Fugere (1848-1935), Antonio Cotogni (1831-1918), Jerome Hines Jan Peerce (1904-1984), Mattia Battistini, Mario Del Monaco Helge Roswaenge Zinka Milanov, Robert Merrill, Giuseppe De Luca (1876-1950), and a long list of others. They were able to execute every effect asked of them by composers, directors, and conductors, and still please the public over a lifetime. How did they sing? How did they describe their ideas of how to 'support' and 'place' the voice while singing?

A conductor, who performed with 'The Glory of Italy', the baritone Mattia Battistini, asked one of the three greatest vocal technicians and practitioners of the Bel Canto vocal style in history how he sang (the other two were Adelina Patti and Fernando De Lucia). What did he think about while singing? Battistini answered, "I press my chest." The verb, "press," was echoed by the greatest soprano of them all, in the opinion of Caruso and Arturo Toscannini (1867-1957)), Luisa Tetrazzini, who said that she "kept the pressure of the breath against the sternum at all times". Another Goddess of the Pantheon of Opera, Lilli Lehmann, said to "keep the pressure of the breath against the chest at all times". If I were to include all of the singers who recommended an outward pressure of the breath against the chest while singing, I would have to list almost every great singer in history. The "leaning" of the breath against the chest, instigated by 'squeezing' with the ribs in the lower back, was the concept, the bio-mechanical process, called the 'appoggio' in the Italian language, that was the approach to good singing that was common to the greatest singers in history.

The Diaphragmatic Lift

The 'lean' against the lower chest is easily identifiable among great singers if there are films available of them actually singing. Richard Tucker (1913-1975) and Eleanor Steber (1904-1990) can be seen using the "diaphragmatic lift". The breath would be inhaled into the lower lungs, expanding the ribs in the lower back (the "floating" ribs) while, at the same moment, arching the chest slightly up and thrusting it forward. The attack of the tone would begin with a

pressing or "leaning" of the breath at a slight downward angle against the lower chest (the 'sternal arch'). The "lean" would be sustained against the lower chest by steadily closing (squeezing) the ribs in the lower back until the tone ended. This method of breath support was taught to them by their teacher, Paul Althouse (1889-1954). Althouse was a very successful tenor who had a wonderful, long career at the Metropolitan Opera as a leading singer. When I sang for Tucker the first time, he said, "It's too bad Paul Althouse died. He could have helped you." (See "Quotations and Anecdotes")

Succinct and Simple

Caruso described his method of inhaling into the 'bellows' (the ribs in the lower back) and squeezing them while singing. Here are some of the quotes taken from his book:
"Pull the abdomen inward while inhaling.
At the same moment, raise the chest and expand the lower ribs in the back.
Then do a contrary motion while singing".
"The ribs in the lower back work like a bellows, opening when inhaling and squeezing together while singing".
"Never sing into the nasal cavity. It is against all the rules of song".
"One can breathe through the nose, but never attack or sing through it."

Patience is a Virtue

We need to practice this method of breathing to learn to identify the 'lean' (the 'breath prop', the 'point of leaning', the 'point of attachment', il punto d'appoggio', the pressure against the chest, ' Die Atemstauung', ('the breath stop'), 'der Staupunckt (the stopping point of the exhalation), Die Staumethode (the method of 'building up' pressure). Singing staccato (very short, repeated notes sung very quickly), once the pressure has been established against the lower chest, can help to identify the 'point of leaning.' It may require a dedicated period of time, and steady practice and repetition of staccato singing, before the sensation of the pulse against the inside of the sternum is felt. The singer must not give up if the sensation is

too subtle to feel at the beginning of the exercises. It will eventually become distinct and applicable as a 'point of leaning' of the breath, and will incorporate itself into the overall approach to vocal technique.

The Unchanging Throat

The method for controlling the breath while singing recommended by Tetrazzini and Lehmann begins an instant before the sound is instigated. The breath (exhalation or instigation of the vocal effect) is 'attached' to the chest, and sustained there by the outward motion of the abdomen and chest. The outward motion of the chest, especially if combined with staccato exercises, will dictate a diaphragmatic 'breath prop' against the sternum that eventually becomes identifiable, reliable and comfortable. This approach to breath control will allow the throat to be totally uninvolved in controlling the emission of the breath. The so-called 'focus' of the voice will occur automatically, without narrowing the Pillars of the Fauces, or by flexing muscles in the throat. Alfredo Kraus (1927-1999) said, "The tension of the contracted diaphragm must be sustained as long as the tone is being sung. The singer must use "El punto de apoyo". This phrase in Spanish describes 'the point of location of the 'lean' (pressure of the breath) against the chest. The singer can alternate sustained tones with staccato tones while pressing the chest outward to help identify the "punto d'appoggio.' If the breath is inhaled deeply into the lower back before singing, awareness of the staccato 'pulse' against the interior of the sternum will help to identify its exact location.. The pressure of the breath against the immovable chest must not vary in intensity or placement, but remain constant as long as the sustained tone lasts. The sustained pressure of the breath against the chest will keep the throat free (Caruso said, "…maintain the open throat"), and allow the vocal folds to vibrate without impediment. Singing wide intervals should not change the location of the 'punto'. The pressure of the breath remains placed on one spot, regardless of the intervals to be sung. Octave intervals, or any large interval, require that the mind not be distracted by any consideration that may interfere with the concentration of the breath on the 'punto'. Some Italian teachers and coaches will say, "Mai

passare la voce!" (Never pass the voice) They are referring to any mental or muscular action that occurs as the voice 'passes' from the middle range to the upper range. The voice will 'pass' (or 'cover') in the 'passaggio' (the 'break') automatically, without the slightest muscular action in the throat, if the throat is undisturbed by muscular action or a change of the emission. Vowel modification is never approved by an Italian coach, because it requires action in the throat and distorts the purity of the vowel. The unchanging shape of the throat, created by the deep inhalation into the lower back, is maintained by keeping the emission of the breath constant and the throat completely loose without muscular action. Caruso said, "…The open throat is maintained by the power of the respiration." The thought of the placement of the 'lean' must become inviolate, and must not move away from the 'punto' as the voice moves up and down from the chest resonance to the resonance of the head while singing from the lowest note to highest note.

"Tutto sul punto" (Everything on the Point)

Giovanni Martinelli (1885-1969) said the breath must be "ben postato, ben appoggiato (well placed, well leaned)". When asked what he taught his students, he said, "Qui respirare e qui postare!" ("Breathe here", placing his hands on his ribs in the lower back, and "place it here", indicating with the tip of his finger the center of his chest). When I asked him about the new idea of 'focusing the voice' that was gaining popularity in New York at that time (1962), he said, "Il posto, il posto!", pointing at the center of his chest, "e tutto sul punto" (and everything on the point). He was 77 years old at the time, performing the role of the "Emperor" in "Turandot" at the Met. He, like Giuseppe de Luca, had a career at the Met that lasted 33 years!

La Messa di Voce (the measure of the voice)

De Luca's approach was slightly different. Although his concepts of breathing and 'appoggio' were exactly the same as those described by Battistini, Tetrazzini, and Lehman, he added the criterion of 'keeping the weight of the voice as light as possible for the attack. Robert Merrill, who coached with De Luca extensively, said that the

historical singer's approach to singing was taught in steps. Each step was equally important and had to be perfected.

The first step:

Breathe silently through the nose into the lower back while pulling the abdomen inward, maintaining a gentle smile at all times (Marcella Sembrich called it the correct formation of the mouth the 'oval lying on its side'). Allow only the ribs in the lower back to expand.

The second step:

Keep the 'weight' of the voice as close to the falsetto as possible, especially at the instant of instigation of the sound, without allowing the slightest hint of breathiness or nasality.

The third step:

Press the breath against the center of the chest at the beginning of the tone. Maintain the pressure of the breath against the chest as long as the phase lasts. Then breathe again as described above.

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De Luca loved to have male singers begin a tone with a soft falsetto "oo" vowel. Gradually, the falsetto would be blended into a full voiced "ah" vowel while increasing volume. After sustaining the 'forte' for a moment, he would direct the singer to decrease the volume slowly back to the falsetto "oo". He called it "La messa di voce" (the measure of the voice). This exercise was often done with a candle flame or a tissue held in front of the lips. The flame or tissue would be disturbed and move away from the mouth during the pure falsetto tone. However, if the flame moved at all when the full voice was achieved, the tone was leaking breath and was wrong. The decrescendo was done with no leaking of the breath allowed, ending with a mezzo voce that did not leak breath instead of a falsetto tone. His concern with lightness of tone bordered on exaggeration, so intense was his concern. He would not allow any 'meat' in the tone; no darkness, no thickness, no 'coloring' with the throat or action in the throat, jaw, or tongue, and, especially, no nasality. The volume of the voice was built on a crescendo of the falsetto-based, non-leaking, "mixed" tone, while keeping the pressure of the breath against the chest. Consonants were combined with vowels and repeated with the candle flame held in front of the lips. Any movement of the flame

or tissue during the articulation of any consonant, including 'P', 'S', 'F', 'G' and 'T', was a sign of faulty 'appoggio' and not permitted. No 'chewing' or 'biting' of the dental consonants (moving the chin up and down while enunciating and allowing the teeth to close together) was allowed. Only the tip of the tongue was allowed to move up and down to articulate the dental consonants, with the chin left loose and hanging down. The clarity of the tone was assured by keeping the corners of the mouth back at all times.

This technical approach developed his voice into a leading Italian baritone. It was powerful enough to sing all of the dramatic roles of Verdi during his long career, but also 'light' enough to let him sing high lyric roles. He sang Verdi's 'Rigoletto' and Rossini's 'Figaro' in IL BARBIERE DI SIVIGLIA with equal success.

We should all consider the advice of this great artist. He sang as a leading baritone at the Met for 33 years without a vocal problem. His teacher was Venceslao Persichini (1827-1897), the teacher of Mattia Battistini and Titta Ruffo (1871-1953)! Persichini would hold the record for teaching historical baritones, if such facts were compared and rated!! Persechini's vocal method (used by Battistini, De Luca, Ruffo, and in modern times, Robert Merrill and Kim Josephson) was revealed by the advice De Luca gave to Merrill. It was most definitely the same 'appoggio' method we have encountered when studying the vocal techniques of other historical singers of the same era.

Getting Closer to the Audience

One thing has drastically changed in modern times, and that is the concept of 'focus'. The concept of 'focus', before 1950, was applied only to the pressure of the breath against the chest. It was never applied to the concept of tone. 'Focusing the tone' in the nose has become a major idea propagated by teachers who were never singers. The term, 'focus', may help a singer get the idea of the concentration of the 'appoggio' on the chest (the practice of singing staccati against the chest is infinitely more efficient), but it was never used as an aid to the 'raccolto' (gathering) of the resonance of the 'True Mask', which is horizontally open above the bridge of the nose, behind the eyes and eyebrows. It is never the result of 'focusing' the resonance

of the voice in the nasal cavity.. The concept of 'focusing' had nothing to do with sound in the past. There is nothing written by a great singer about focusing the voice or the tone, and I never, in my extremely fortunate and extensive exposure to the greatest singers of the modern era, heard the word from one of them. Alfredo Kraus was the only singer I admired who mentioned the nose at all, and the one criticism of his singing during his career was that his voice was nasal! He did not use the term 'focus' with me. He used the phrase "at the tip of the nose." (a la punta de la nariz) as a concept of 'getting closer to the audience'. His main preoccupation while singing was definitely the point of location of the pressure of the breath ('el punto de apoyo') in the middle of his sternum. Unfortunately, 'focusing the voice' has come to mean a closing of the vowel form by narrowing the Pillars of the Fauces. This directs the small amount of tone that escapes the deadening effect of the closed throat directly into the nasal cavity. Caruso said, "Never sing into the nasal cavity. It is against all the rules of song." He also warned against the 'nasal voice'. "You can breathe through the nose, but you can never sing through it."

What's in a Name?

The 'point of the leaning of the breath' had a name in the Golden Age of Singing: 'il punto d'appoggio' in the Italian language, "el punto de apoyo" in Spanish, "der Punkt des Atemstauens" in German (the point of the breath stop). The modern French singers use the word, 'soutenir', which means to support or lift the breath. However, when Manuel Garcia II, Mathilde Marchesi (1821-1913), and Blanche Marchesi (1863-1940) taught in Paris, 'appuyer' (to 'lean') was the French word used to describe the correct function of the breath while singing. George Thill (1897-1984), having learned the concept from 'The Glory of Italy', Fernando De Lucia, tried to teach De Lucia's method of the 'appoggio' in Paris after his retirement from performing in 1953.

A Ladder Against a Wall

In the U.S. and U.K., the terms "support" and "breath support" have become standard terms in singing. Singers should stop for a moment and consider the differences between the terms used by great singers of the past: 'lean' the breath', 'breath prop', 'breath stop', 'press the chest with the breath', 'press the breath against the chest', 'sigh against the chest', and the terms commonly used today in the English speaking countries: 'support' and 'breath support'. 'Support' means to hold something up from underneath. 'Breath support' suggests that the breath must be held up (supported) from underneath while singing. A more efficient term would be the reflexive form of support… to have the breath 'support itself' against the diaphragm. "Appoggio" means to lean something against a solid resistant structure, without pushing or 'grunting', allowing gravity to do the work. The breath should 'lean itself' against the diaphragm. If I lean my weight against a wall, I am not pushing the wall. I am leaning myself against the wall. I am not 'holding up' my weight or the wall. The wall is passively holding my weight, not actively lifting me. In the great school of Italian singing, the breath (Tetrazzini called it the weight of the breath) is 'leaned' against the diaphragm (the breath is 'pressed' against the lower chest). Tetrazzini, in her desire to explain and describe the 'appoggio', used the image of a "ladder leaning against a wall".

Emission and Division

In the Bel Canto style of Italian singing, the breath was drawn into the "lower rear quadrant of the lungs" (Tetrazzini), which 'elongated the lower spine' and contracted the diaphragm downward to its maximum extent. At the instigation of tone, the breath, "squeezed by the lower ribs in the back, like squeezing a bellows" (Caruso), was leaned (pressed) against the perfectly still, contracted diaphragm (the lower chest). The front of the diaphragm and the chest were pressed outward and forward, creating the 'sternal arch'. The result of closing the lower ribs in the back while singing, is pressure of the breath against the chest (Mattia Battistini, Lilli Lehmann, and Luisa Tetrazzini). Caruso and Lehmann pulled in the abdomen while

inhaling, adding a more intense expansion of the ribcage and increasing the depression of the rear half of the diaphragm. This exaggerated action, described by Lilli Lehmann as "the breath jerk", created more compression, and increased the energy available to the voice. The lower ribs in the lower back, responding to the "massive respiration required for great singing", "opened like a bellows". (Caruso). The lungs were filled with breath to their extreme capacity (Tetrazzini said "Start the inhalation at the bottom of the lungs and fill them completely from the bottom to the top."), and directed to perform a double function: retain the breath in the lungs not needed to actually create sound (Manuel Garcia's direction to restrain the 'superabundance' of the breath), while sending out the necessary amount of breath required by the tone or phrase being sung.

The key to the vocal style practiced by the greatest singers was a method of breath control that allowed the throat to remain free and open while singing. The breath not yet needed for the emission of the voice was retained in the lungs by pressing (leaning) it steadily against the lower chest (the 'appoggio'). The necessary amount of breath, the 'emission' (in Italian, l'emissione del fiato'), was sent to the larynx as needed to produce the voice. This simple division of function has led to total confusion about how to control excess breath in the lungs while singing. Because modern singers do not know how to control the breath without constriction of the throat, many well-meaning teachers and coaches, who have never been singers, will direct an aspiring young vocalist not to breathe! They forget that the voice is a wind instrument. They would never presume to tell a wind or brass player not to breathe! Supposedly, in their ignorance, they imagine that tension in the throat can be avoided by not breathing. Of course, nothing could be farther from the truth. Lamperti agreed that there is one obvious and serious problem that singers must solve if they are going to sing well and be able to sustain professional careers. He shared with us two observations based on many years of experience as one of the most successful voice teachers in history: "All problems in singing are the result of the mismanagement of the breath";

"The problem for the singer is to give the breath and restrain the breath at the same time."

'The Flower of the Throat'

"Support" means to hold something up. This is the opposite concept of what the Italians mean when they use the word "appoggio." The difference in meaning between these two words is crucial if the throat is to open vertically downward and remain loose and free. The great Italian voice teachers of the past often referred to the 'flower of the throat' (il fiore della gola). The 'flower of the throat' opened as part of the vertical reaction to deep inhalations into the lower back. The 'petals of the open flower' were to remain soft at all times. The throat, and its soft 'flower', were kept "open and 'invisible', as if a hand could pass through it and find nothing there." (Dave Eva Turner [1892-1990]) by using the 'appoggio' while singing. Caruso used the terms "massive respiration required for great singing" and "the open throat is maintained by the power of the respiration." According to Tetrazzini, the "weight of the breath would be leaned ('propped like a ladder against the wall') against the sternum at all times while singing." The amount of pressure used against the chest (the 'appoggio') was always as little as possible, but sufficient to maintain the vertically opened throat, to maintain the 'fiore della gola', to equalize the resistance of the vocal folds according to their length and thickness, and to permit the freedom of the voice to achieve the vocal range and dynamics demanded by the composer. I

The Glass Voice

The degree of pressure against the chest varies from individual to individual. Some singers with big voices must learn to 'lean' adequately (to feel a heavier weight against the chest) to equalize the resistance of their huge vocal folds. It is a skill that must be learned and developed over a long period of time, especially when learning to control a large, 'resistant' voice. Caruso was known as 'the Glass Tenor' when he began his career, because he 'cracked' on his high notes so often (allowed the voice to suddenly slip into the pure falsetto function). The tendency to crack on high notes is an 'occupational hazard' for any male singer, and especially for tenors with big voices. Any male singer, trained to sing 'close to the falsetto', will need to develop adequate strength and capacity of the

breathing system in order to fulfill the criteria of a professional career without the problem of 'cracking' (in Italian the word is 'rompere', and in German it is 'kiecksen').
Caruso was a master of the use of the mezzo voce at the beginning of his career. However, his power singing left a lot to be desired. 'Cracking' is a sure sign that consistent strength of the intensity of the 'lean' is inadequate for the task at hand. Of course, he developed the necessary strength to sustain his incredible voice at full power when it was needed, and became the most celebrated singer in history.

Something Has to Give

The expansion created by opening the lower ribs in the back while inhaling, especially if the abdomen is drawn inward at the same time, depresses the back half of the diaphragm. This allows the lungs to expand extremely, in some cases increasing the size of the 'air-box' to almost double its usual capacity. This way of inhaling creates the largest 'drum' the body is capable of producing. The 'air box' can be thought of as being comprised of three collapsible sections; the chest, the belly, and the back. As we lose air while singing, one of these sections has to collapse in order to release enough breath to sustain the singing voice. Good singing, and the fulfillment of professional criteria in singing, require that the emission of the breath which creates the singing tone be sent from somewhere in the body. From where should the breath be sent to the chest and larynx? Which wall of the 'drum' should be allowed to collapse when singing is begun and sustained?

The Collapsing Balloon

One of my colleagues used a 'support technique' that gradually collapsed all three sections of the 'air box' as evenly as possible at the same time, 'like a balloon that has sprung a leak'. Of course, this approach was learned from a repertoire coach, and not from a famous singer. Unfortunately, her dynamic range and her vocal range were extremely limited. She couldn't sing louder than a mezzo forte without getting hoarse, because the pressure of the breath against the larynx, although comparatively mild, because it was

released and not pushed, was leaned directly against the only possible mechanism left for control of the emission-the vocal folds themselves.

The Collapsing Chest

The vibrations of the air in the upper lungs are reduced if the chest collapses downward or inward while singing. We know that the smaller the air in a drum, the smaller the sound will be when the drum is struck. In spite of this obvious fact, some singers allow the chest to collapse while singing, and try to control what is left of the 'superabundance of the breath' by flexing muscles elsewhere in the body. They can compensate for the loss of the 'breath prop' against the chest by 'leaning' into the 'big belly', or the abdomen, or against the upper back, or sideways and outward against the upper ribs. The 'big belly' leaning method is most commonly used by men with big bellies, especially 'bass buffos' (male singers with low voices who specialize in comic roles). Usually, they are limited to playing the 'funny men', in spite of possessing natural voices that are of good quality in terms of range and volume. The collapsing chest and the loss of the vibrating air in the upper part of the 'air box', leave the singer with a generic sound which lacks the possibility of noble expression. Imagine the effect on a drum if it were slowly collapsing and losing air while being played. The sound would gradually become less resonant and have a 'dead' quality. A slight adjustment of the 'sternal arch' would stretch the front part of the diaphragm. The expression of many 'timbres' (happiness, sadness, longing, nostalgia, heroic sacrifice, etc.) required by leading characters in major roles are produced by the front of the diaphragm. Singers can identify this function by remembering where the sensations are in the diaphragm when laughing, crying, or trying to stifle laughing or crying. This is the part of the diaphragmatic function that is prevented by collapsing the chest.

The greatest practitioner of the 'belly-leaning method' I ever heard was Salvatore Baccaloni (1900-1969). He was generally considered the greatest Basso-Buffo in history. The quality of his natural voice was definitely beautiful enough to have been a leading performer in any kind of Bass repertoire. However, his vocal method, dominated

by letting the chest collapse and pressing the breath into his large belly, responded to an exaggerated 'Santa Claus- Ho, Ho, Ho' way of delivering the vocal lines. Although his method gave him the freedom of the throat he needed to fulfill the requirements of the comic characters he portrayed, his sound was always comical and without nobility. There were no subtle changes of color and emotion. His diction was clear and facile, and his high notes were secure. A higher placement of the 'point of leaning' would have made the voice more slender and adaptable to the expression of delicate emotions. A higher placement of the 'appoggio' would have prevented the unsteady, slow vibrato that dominated his sustained singing at times.

The Collapsing Belly

The belly can be pulled inward or allowed to collapse inward while singing, forcing or allowing breath to escape upward against the throat. If the abdomen is pulled inward while singing, the pressure of the breath being pushed upward will land directly on the larynx, creating havoc with the vibrations of the vocal folds. The point of the 'breath stop', the point of breath control, becomes the larynx. The muscles of the throat, tongue, jaw and the muscles under the jaw and behind the chin get involved in trying to control breath that is being pushed from underneath. This method is simply a vocal disaster in action. It is a method that collapses the lower section of the 'breath-box' and provides no 'lean' (breath prop) in the body at all. It is the most damaging method of releasing or sending air against the throat of all of the many possible ways to misuse the breath. If breath is pushed up by pulling the abdomen or middle belly inward and/or upward while singing, the muscles in and around the throat will have to compensate for the pressure from underneath. The alternative method of control is by tightening the glottal closure (the 'glottal stroke') to resist the onslaught of breath. The muscle contractions in the throat will affect the vibrations of the vocal folds and slowly destroy the voice. Even a small amount of unutilized breath leaking through the vocal folds, pressed upward by a collapsing or pulled in abdomen or belly, will eventually cause nodules to form. A gust of breath against the vocal folds can cause sudden, catastrophic and, sometimes permanent damage to a nerve

that is essential to the control of pitch or glottal closure. The voice will not recover from this type of injury. It can be avoided by 'leaning' (pressing) the breath outward against the lower chest, using the lower ribs in the back to maintain a steady 'appoggio' while singing. The belly or abdomen must not be allowed to pull inward and press the air up against the throat.

The Collapsing Ribs

The ribs in the lower back should collapse (close, squeeze together) in order to send and sustain the pressure of the breath against the lower chest. However, it goes without saying, that there must be sufficient breath in the lower back before the 'squeezing' begins. The breath must first be inhaled into the deepest part of the "lower rear quadrant of the lungs" (Tetrazzini). These procedures make up the inhalation/exhalation method of breath control recommended by the greatest singers in history. It is the breath control method every singer should strive to master. This will require that the chest remain high in the position of the 'sternal arch'. It must remain still and full of breath while singing. The abdomen will have no function at all in this method of breath control. In fact, the abdomen is deliberately pulled in when inhaling (Caruso and Lilli Lehmann) in order to eliminate it as a possible reservoir for the breath. Pulling the abdomen inward while inhaling will not only neutralize it as a possible source of breath while singing, it will contribute to additional expansion of the lower ribs in the back, thereby increasing the size of the 'breath-box'. (The bigger the drum, the bigger the sound.) After breathing into the lower back becomes a habit, pulling the abdomen inward while inhaling can be left out of the breathing method completely. For instance, pregnant ladies can't breathe into the belly. The space is already occupied! And she certainly can't pull her abdomen inward while singing. The inhalation of a pregnant singer has to go into her back. She has no choice. This is the reason ladies seem to sing better and better as the fetus develops and the belly gets larger. By eliminating the belly as a possible breathing space and maintaining a full, still chest, we allow the ribs in the lower back to open when inhaling and close when singing. This process coordinates the various processes of the breathing system to produce

the loosest, softest, most open throat, the smoothest emission of the breath, and the guaranteed longevity of the vocal organ. It also results in the most resonant sounds we can make with the voice, due to the perfect freedom of the vibrations of the vocal folds.

Passive or Active Support

The controlling pressure of the breath against the chest (the 'appoggio') is created by closing (squeezing) the expanded 'bellows' in the lower back. The resulting movement of the air/breath is then propelled against the front of the diaphragm (the lower chest). However, there is another way to support the voice that is completely passive. The ribs in the lower back can also collapse while singing against the chest as a reaction to the power of gravity. This is 'passive support', called a 'sighing' technique by Tito Schipa, (1888-1965) or a 'gravity' technique (Alexander Kipnis, 1891-1978).
'Passive support' can be the best approach if the role is very long and the orchestration is very heavy. It requires the singer to drop the breath as low in the body as possible without allowing any muscular action. In Europe one hears old recommendations, like "Sing like you are fourteen months pregnant with triplets." Gravity alone is used to create the effect of the 'breath stop'. The muscles of the back are left slack in order to allow them to respond to the loss of breath as it is used by the voice. The secret is to use gravity to drop the 'superabundance' of the breath down against the diaphragm instead of actively, muscularly pressing it against the chest. An active support method is based on muscular action in the ribs of the lower back. They must 'squeeze' the breath against the chest to establish control. The 'squeezing' propels the breath against the diaphragm in order to achieve a continuous connection to the diaphragm. Dropping the breath, as if it dropping a heavy weight into the body, will cause the ribs in the back to collapse. As long as the breath remains dropped, the sound can be sustained without muscular action. This way of singing is usually practiced by obese women or very pregnant women who sing long, sustained roles, that do not require coloratura, staccato, accents or the many other vocal effects required by Italian composers. Some singers lean the body forward at an exaggerated angle with the chest thrust exaggeratedly out, in

order to assist the gravity type of breath control. If a true 'gravity drop' is achieved, the chest is held up and still, and the abdomen will completely hang out, completely loose, and without any action in the chest except posture. The collapsing ribs in the back will automatically send the right amount of breath to the voice to fulfill the demands of very sustained vocal music.

Medical Opinions

I once asked a pulmonologist to give me his opinion of Caruso's and Lilli Lehmann's recommendations concerning the inward movement of the abdomen while inhaling. Lehmann's famous students, Geraldine Ferrar (1882-1967) and Olive Fremstad (1871-1951) used the same inward 'breath jerk' with each inhalation as Lehmann, having learned it from the great Prima Donna herself. Caruso and Lehmann describe very clearly in their books, that a singer should pull the abdomen inward while inhaling, and let it fall outward while singing. Why did they do it that way as opposed to the reversed method so common today? The Doctor's answer surprised me when he said. "It is obvious. They were trying to get the back half of the diaphragm to descend. That particular movement of the abdomen while inhaling would almost double the capacity of the lungs".
Almost every voice teacher in every conservatory today teaches the breathing method recommended by Dr. Levi Mandl in 1883. The famous medical scientist 'discovered' a 'new and more efficient method of breathing'. Breathing like a sleeping baby would shorten the developmental period of time required by famous voice teachers of the Bel Canto era. Dr. Mandl suggested that the abdomen be pushed outward while inhaling, and pulled inward while singing. This was, of course, the opposite way of breathing that was practiced and recommended by the greatest singers and teachers in the world at that time. However, the old and proven vocal method, breathing like a crying baby, was incredibly reliable and efficient if thoroughly learned and applied. It allowed singers to do everything required by composers while producing fantastic sounds, but had one major drawback. Learning the Bel Canto method of breathing and breath control was a very slow, tedious process. The benefits of mastering the 'old' method of breathing and support were amazing. The

method handed down by the Castrati, who had developed it from childhood as a true 'natural' way of singing, was based on a baby's cry. Everyone admitted that the proven way of singing, up to that point, was wonderful. However, every singer and teacher wanted a faster way to get voices under control. The sooner a singer could get the voice under control, the sooner the career could begin and money could be earned, both for the singer and for the teacher. Teaches in those days received a percentage of their students' earnings. Leo Slezak (1873-1946) paid 15% of his earnings for life to his teacher, and Caruso paid 25% for years. He finally broke the contract by taking his teacher to court. It turns out that Caruso had signed a contract that required him to pay 25% of earnings for five years of actual singing! The old man still managed to get a huge chunk of change from his star student.

Dr. Mandl's method was based on scientific discoveries that came from his study of cadavers. It seemed to work, with very few negatives, and required only half the time unually required to develop a singer, compared to the old method that had produced the greatest singers in history up to that point. The drawbacks were:

-nasality, which dominated the sound and still does today among adherents of the 'Mandl Method';

-pushing the breath upward into the larynx by pulling the abdomen inward while singing.

-actions in the throat, necessary to accommodate the pressure of the breath against the vocal folds caused by the pulling in of the abdomen while singing.

-A much smaller amount of breath in the lungs. The capacity of the lungs was half of that achieved by the old breathing method. (A smaller drum makes a smaller sound)

-Loss of volume and projection of the voice over an orchestra, caused by nasality and the drastic reduction in the capacity of the 'drum'.

-Loss of overtones, reducing the beauty in the voice drastically.

Parnassus

Of course, there is no reason for modern singers to use a method that makes the voice nasal, smaller, and less beautiful. Using the breathing method recommended by the great singers seems a better

way to go, and, if it takes more work and time to accomplish, the results will certainly be worth it. Singers should decide who was a better source of information about singing. Was it a scientist who never sang, or should we rather respect the advice left to us by the greatest singers who ever lived? There are as many opinions about breathing and support as there are so-called voice teachers. They are 'so-called' because they never sang on big stages over big orchestras. Breathing a certain way was so important to Caruso that he mentions it sixty times in his little book! Lilli Lehman and Luisa Tetrazzini were not far behind in the number of times they mention breathing and 'appoggio' in their books. Tetrazzini was especially fanatical about her concept of the 'breath prop'. She directed us to 'keep the pressure of the breath against the chest at all times." Today, if breathing is mentioned at all by a voice teacher, it is invariably taught as an imitation of the 'sleeping baby' instead of the 'laughing/crying baby'. However, we must remind ourselves: We are not asleep when we sing! We need to understand that we are not studying singing to learn to be silent, but to learn how to sing over a huge orchestra in a huge auditorium for hours without straining the voice. we want to sustain a career that will last fifty years! There is no mistaking Caruso's and Lehmann's concept of pulling the abdomen inward to inhale, while filling the 'lower, rear quandrant' of the lungs (Tetrazzini), and letting the abdomen fall outward while singing. Pavarotti described his support method as "Push! Push! Push! Here, like a baby! (his hand was pressed against his lower chest as he demonstrated the outward movement of his epigastrium)." Crying and laughing babies do it all the time! It couldn't be more 'natural'. And it is definitely what Caruso recommended.

It is important to realize, that the way Caruso described his approach to breathing and 'leaning' the breath against his chest was not unique. He practiced a method that was common among teachers and singers in Europe during the late 1800's. This incredible method of producing the voice is still available to singers if they are willing to dedicate themselves to constant practice. It all begins with the drawing inward function of the abdomen while inhaling, and with the 'appoggio' of the breath while singing (Caruso called it "a contrary motion"). As the greatest singer of them all said in his book, after explaining in detail how he breathed, "…If this art of respiration

is acquired, the student has gone a considerable step on the road to Parnassus".

VIBRATO

Vibrato in the voice while singing, in all its possible manifestations, whether too wide and/or too slow (a 'wobble'), or too fast ('a tremolo'), is caused by tension in the muscles surrounding the throat and the lungs of a singer. The secret to finding the ideal vibrato for an individual voice depends on absolute relaxation of the throat, a method of inhalation (into the lower back) that relaxes the throat before singing, and the placement of the 'punto d'appoggio' (the point of controlling pressure of the breath) against the lower chest which controls the breath and allows the throat to remain relaxed while singing.

The angle of the 'lean' (appoggio, pressure) of the breath (from the lower back to the lower chest) maintained while singing is crucial in solving problems singers have with vibrato. The inhaled, retained breath, named "The Superabundance of the Breath" by Manuel Garcia II, must not be released from the lungs while singing. Any form of breathiness, whether audible or not, is damaging and, in some cases, can be catastrophically so.

The actual amount of breath used to produce tone is very small. Not one drop of air should pass through the glottis that is not converted into tone. One of the most important vocalises widely practiced by famous singers was to sing into a candle flame without it moving. As far as the singer is concerned, there is no breath leaking out of the lungs at all! This mystifying act totally confuses throat doctors (and voice teachers who never had a singing career). Jerome Hines described the key psychological approach as "…trying to sing under water without making any bubbles."

It is important for the singer to understand the particular process of respiration that has proven to be the very best method for the production and protection of the voice. The correct psychological concept, the 'starting point' of the inhalation to be used for singing is "…to inhale the first drop of air into the lower, rear quadrant of the lungs" (Luisa Tetrazzini). Therefore, it is essential the singer breathe as deeply as possible into the lower ribs in the back of the torso. Caruso said, "…the lower ribs in the back should work like a bellows. They open while inhaling and squeeze together while singing." The correct 'angle of breath support' for the sung tone begins in the lower back and is directed (leaned or pressed) against the center of the sternum (Luisa

Tetrazzini, Lilli Lehmann, Luciano Pavarotti, Mattia Battistini). We know from books written long ago (Caruso published his book in 1908) this approach to breathing and support was utilized by the greatest singers of the Bel Canto era. This method of respiration and support leaves the throat totally uninvolved in the production of tone. Dame Eva Turner said, "We sing through the throat, not with the throat".

George London explained it this way: "Nothing should move unless the inhalation moves it." One characteristic of every great vocalist is the perfect stillness of the chest. The greater the singer, the less the action of breathing is apparent. The reason is that the only movement is behind them! Singers who expand the ribs outward as an independent act without allowing the inhalation to move them, instead of breathing into the lower back and accepting the response of the diaphragm and the ribcage, simply don't understand singing. Once the inhalation is accomplished, the breath is kept still and under control by pressing it against the chest and allowing the ribs in the lower back to close while singing (Caruso's 'bellows'). This is the entire process in a nutshell. Deep inhalations into the lower back relax the muscles of the throat, open it both vertically and horizontally, correctly expand the ribcage, prepare the diaphragm by lowering it as far as possible, and fill the cavity of the chest with air that can be used like a resonating drum.

Too wide and/or too slow a vibrato, known as a 'wobble', is caused by extreme tension of the muscles around the ribcage and the throat trying to compensate for too much thickness of tone. It is a necessary evil if the thickest sections of the vocal folds are activated by a desire to make a bigger sound instead of utilizing only the edges of the folds and depending on the disturbance of air in the lungs to create overtones that become the beautiful singing tone we all love. This tendency is most common among singers with low voices as they try to sound darker and deeper. If they are able to sing the high notes required by the repertoire they sing, the notes usually wobble. I once asked Gottlieb Frick, the famous German basso/profundo, how he approached his marvelous voice. It was so black in color and huge in volume I assumed he must do something in his body or throat to be able to make such enormous sounds. He answered, "Ich versuche die Stimme von meinem Kollegen, Fritz Wunderlich, nachzumachen. Alles so leicht und schlank wie moeglich, genau wie er." (I try to imitate the voice of my colleague, Fritz Wunderlich. Everything as light and slender as possible, exactly like him.)

The correct approach to the production of tone has always been to sing as 'lightly as possible' in terms of the basic quality of the voice. Only the edges of the vocal folds should vibrate while singing, and the quality and volume of the voice should emanate from the amount of retained, vibrating breath in the lungs (the 'air-box', the 'drum', the breath-box, the 'superabundance of the

breath'). The air in the lungs that is not being used at the moment to produce tone is, ideally, set into vibration by instigating a sound that is the result of deep breathing into the lower back, the 'lean' (appoggio, pressure) of the breath against the chest, and a gentle laughing or crying stimulus. One of the oldest sayings in the history of artistic singing is "The bigger the drum, the bigger the sound".

The exaggerated type of vibrato known as a 'wobble' is the result of a basic misunderstanding of how the voice functions. The resistance of the vocal folds should not be felt or noticed by the singer (Dame Eva Turner described the sensations in the throat, tongue, and jaw as 'invisible'), and the 'breath-box' should be as large and as full of breath as possible. This approach will eliminate the terrible 'wobble' that comes from singing with too 'heavy' a tone. All singers should include staccati and coloratura phrases in their warm-ups to keep the voice light and slender. This is especially important for singers who tend to have a vibrato that is too slow or too wide.

'Straight tones' are sung tones with no vibrato. This type of 'dead tone' is produced by leaning the pressure of the breath against the chest, but without any hint of emotion or expression. The most famous singer in history to use the 'straight tone' consistently was Nellie Melba. She was exemplary as to the correct use of her breath, and was considered the greatest soprano during her career. However, she was also an example of a 'cold' singer who never allowed any emotion to disturb her voice. Known as the 'Blue Diamond' because of her exquisite voice and ice-cold presentation, Melba sang with an utter lack of emotion or any expression. The result was that she sang with 'straight tones' exclusively. Rosa Ponselle, when asked what she thought of Melba, said, "She has an indescribably beautiful voice, but she uses too many 'still tones'. In New York the public demands passion in the voice on every note." Of course, that may be why Ponselle's voice was full of vibrato and passion. She was the darling of New York audiences and known for her incredible, heart-rending performances.

A vibrato that is too fast, called a tremolo, results when intense involvement of the upper muscles of the chest 'squeeze' breath that has been inhaled into the upper areas of the lungs only. The deepest parts of the lungs have not been included in the inhalation. A 'tremolo' cannot be produced if the inhalation of the breath before singing has been inhaled deeply enough into the lower rear quadrant of the lungs. It is the easiest of all vibrato problems to correct. Shallow breathing into the chest or upper ribs, usually caused by expanding the upper ribs to the sides without breathing deeply into the lower back, leaves the singer with no other possibility to support the voice except to squeeze the muscles around the upper torso and to pull the abdomen inward while singing.

The correct vibrato is most easily demonstrated by first inhaling deeply into the lower back and then instigating the activity which emulates gentle laughing or crying. The muscles that respond to laughter are generally distributed around the entire ribcage and are immediately responsive to the desire to express joy or pleasure. An understanding of the complete process of respiration (inhaling into the lower back and 'leaning', 'pressing' or, to quote Lilli Lehmann, 'stopping' the breath against the lower chest), is the all-important factor in the regulation and sustaining of a correct vibrato.

It is obvious that to avoid a wobble, usually based on deep, frontal belly-breathing, which causes muscular reactions in the larynx, the breath for singing must be inhaled in a way that relaxes the throat rather than activates the throat. In order to avoid all muscular tension in the throat caused by either action or reaction when inhaling or singing, the breath should be inhaled as deeply as possible into the lower back. Once the breath has been 'placed' into the lower reaches of the rear quadrant of the lungs, laughing gently (giggling or chuckling) or crying gently (sobbing, resorted to by some singers, is definitely not necessary) while singing will incorporate the correct muscles in the body for singing and create a correctly produced 'vibrant' tone. It can be easily observed that laughing or crying will cause pressure against the lower chest. The solar plexus will protrude as the laughing or crying begins. Babies are the best example s of how to use the breath most efficiently. They relax the diaphragm while inhaling and flex it outward while laughing or crying. This is the opposite of their method of breathing while sleeping. Singers are not asleep while vocalizing and performing. Therefore, to use a reversed method of breath control (the sleeping baby method) is completely wrong. When Pavarotti demonstrated his support method in a Juilliard Master Class, he moved his belly outward while singing and then said, "It is like a baby here (in the mid-belly)…PUSH, PUSH, PUSH!" Certainly, the whole world loved the speed and width of his vibrato.

So-called 'straight' tones, sought deliberately by male singers who specialize in music written for Barbershop Quartets and by some singers who believe Madrigals and Baroque vocal music should be sung without any vibrato in the tone, can be easily produced using the same method of inhalation and support, but any vestige of laughter or expression must be eliminated. The tiniest chuckle or 'tear in the voice' will instantly produce vibrato in the sound, and it will be the correct vibrato for the individual voice.

Once the breath has been inhaled deeply into the lower back and the throat is free, the entire potential of the respiratory process can be exploited to 'laugh' or 'cry', thus producing the intensity of vibrato that the individual singer should produce. Tremolo and wobbling are caused by faulty respiration and the desire to enliven the tone artificially without applying genuine emotional stimulation

to the diaphragm. The worst examples of vibratos that are quivery, wobbly or overly intense are often heard in the opera because of the extreme emotionalism required by the characterizations of the leading roles. In order to assure the correct degree of vibrato in any particular voice, it is necessary to establish limitations as to the activation of the muscles, always letting discretion be the guide. Therefore, when singing, this is achieved by using only a limited amount of the emotional expression inspired by the text and the music. Exaggerated breathing, what Caruso called "…massive respiration" can only be good if the inhalation is correctly placed into the lower back and the controlling pressure of the breath is established against the lower chest, exactly as described by the Master himself. However, it is to be noted that Caruso recommended 'exaggerated breathing', not 'exaggerated emotional outbursts'. Exaggerated expressions are to be avoided if they cause any action or reaction in the throat. This is the great danger of singing heavy, dramatic roles over huge orchestras. The amount of intense emotionalism demanded by some roles can cause the singer to become vocally 'ueberfordert' (over-demanded). Usually a gentle laughing or crying stimulation of the diaphragm is sufficient to express any degree of vibrato necessary for the production of the overtones required for beautiful singing. Heavy dramatic roles should not be attempted until years of correct singing have safely passed without vocal problems. The correct processes of healthy vocalism must become both habitual and strengthened to the degree that there is no danger of demanding more from the voice and the strength of the respiration than they can safely and consistently produce. Giving less volume and intensity with the voice is never dangerous. Giving more volume and intensity is always putting the voice at risk.

A simple exercise for finding the 'natural' vibrato in an individual voice is to follow these steps:

1. Inhale into the lower back, bending over forward (touching the toes) if necessary to 'get the feeling' of where the breath should be placed. Enrico Caruso, Lillie Lehmann, Lauritz Melchior, Helge Rosvaenge, Amelita Galli-Curci, Tito Schipa and many other great singers recommended pulling the abdomen inward while inhaling to reinforce the pressure of the inhalation into the lower back.
2. Sustain a 'straight' tone by pressing the breath gently against the middle of the chest and relax the abdomen outward. This is the easiest and safest way to produce a 'dead' tone.
3. Gradually allow yourself to feel happiness or sadness as you hold the tone. You will notice that vibrato begins instantly.

4. Any emotion will stimulate the diaphragm and the muscles surrounding the lungs. The singer can experiment with different emotions to become acquainted with the correct muscular process. After some practice, it will not be necessary to 'emote' all the time while singing.

The induced or manufactured vibrato is not a disturbance of the tone caused by emotional stimulation of the 'appoggio' (the 'lean', the 'breath stop'). It is rather an artificially produced, rhythmically sub-divided movement of a tone accomplished by easing the pressure of the breath against the chest. The 'loose lean', which is not a true lean at all, requires that the pressure of the breath 'back off' (be relieved) away from the true 'point of leaning' just enough to allow the breath to lose its focal point. A generalized, compensated state of expanding energy will occur in the lungs. This state of outward pressure of the breath, usually created by pulling the abdomen inward while singing, controls the emission of the breath while at the same time providing 'wiggle' room for the regulated disturbance of the emission. The singer is forced to resort to nasality to achieve even an imitation of a correctly placed tone.

This set of explanations can be very useful to singers who are aware they have a wobble or a tremolo, or that they sing too many 'straight' tones. Simply follow the breakdown of the parts of the breathing system and utilize those parts in a manner that is applicable to you. The principles are the same for every voice type, from highest soprano and tenor to lowest contralto and deepest bass. Giovanni Lamperti said, "All problems in singing are caused by the mismanagement of the breath". And I believe Caruso when he said, "Whoever masters this method of breathing will have taken a giant step toward Paradise."

ABDOMEN

"The abdomen has no function in the act of actual singing. The abdomen is useful only if drawn inward while inhaling. This inward movement of the abdomen should occur with each inhalation before singing, and never while singing. Once the emission of the tone begins, the abdomen must be completely be relaxed outward and downward. It must be out of the picture, having completed its mission of eliminating one of the three possibilities of breath placement (the belly, the chest, and the back) before singing. The only area of the body that should open and expand for the purpose of inhaling is the lower back. That crucial expansion should not be accomplished as an independent process. The ribs must not move unless the breath moves them! Never expand the ribs independently.
Drawing the abdomen inward, while inhaling, prevents the filling of the belly with breath. It aids the expansion of the ribs in the lower back. The drawing in of the abdomen while inhaling can be a secret weapon in the war with the breath. If it moves inward while singing, the war is lost!
Breath will rise toward the throat if the abdomen is drawn inward while singing. The muscles of the throat and neck will have to compensate and try to control the emission. There must never be a pressure of the breath against the throat or any form of muscular action in the throat. There must never be a release of unutilized breath upward toward the throat. The chest must not move, and the abdomen, when not assisting with the inhalation, must remain totally relaxed downward and outward. The controlling pressure of the breath, sent from the squeezing, lower ribs in the back, is maintained against the chest, and never allowed to rise upward against the throat! The abdomen, once singing has begun, has no function. It must relax outward and downward while singing." DAME
EVA TURNER (1892-1990)

"The abdomen should be drawn in while inhaling and a contrary action should occur while singing.
ENRICO C ARUSO (1873-1921)

"At the instant before the breath is inhaled, jerk the abdomen in, thereby creating the maximum opening of the lower back! As the singing begins, do the opposite and let the abdomen relax downward and outward."
LILLI LEHMANN (1848-1929)

The Back Space

The abdomen plays a crucial role in the Italian 'support' method called 'Appoggio' ('leaning'- maintaining the pressure of the breath against the chest while singing). Drawing the abdomen **inward** while **inhaling,** assists the back half of the diaphragm to descend to its lowest possible level in the lower back, thereby increasing the breath capacity substantially. In order to achieve the maximum vertical expansion of

the lungs, according to Giovanni Battista Lamperti (1839-1910), Enrico Caruso, Luisa Tetrazzini (1871-1940), Lauritz Melchior (1890-1972), Lilli Lehmann, Helge Roswaenge (1897-1972), Richard Tucker (1913-1975), Birgit Nilsson 1918-2005), Giovanni Martinelli (1885-1969), and Dame Joan Sutherland (1926-2010), the rear half of the dome shaped diaphragm must contract downward and toward the lower back while inhaling. The belly must not be permitted to expand during the inhalation. The back half of the diaphragm will not descend to its ultimate depth while inhaling, if an outward expansion of the belly is allowed. Breathing into the belly will depress only the front of the diaphragm.

The First Drop

In order to double the capacity of the lungs, as described in books by the greatest singers in history, and according to pulmonologist, Maurice Sheetz, M.D., the singer needs to eliminate the possibility of employing inhalation methods that use only part of the potential of diaphragmatic contraction. The maximum response of the diaphragm is automatic and uncomplicated, if the inhalation is instigated at the lowest level of the rear quadrant of the lungs, and assisted by drawing the abdomen inward. Luisa Tetrazzini said in her book, "The first drop of inhaled breath should begin at the lowest point of the rear quadrant of the lungs."

Lift Up or Let Down

As recommended in old books on Italian singing, by great, historical singers, and the most famous Italian voice teachers from the past, the best method of breath control was the technique of 'Appoggio'. It was described as a process of "leaning" (pressing) the breath, from the lower rear quadrant of the lungs, upward at an angle, centering it against the lower chest while singing. The compression required to maintain the pressure of the breath against the chest while singing was supplied by 'squeezing' the lower ribs together in the lower back.

Caruso said, "The ribs in the back work like a bellows. They open when inhaling, and squeeze together while singing."

The act of pressing the breath against the chest is called "Atemstauen" ('stopping' the breath) by Lilli Lehmann. She said in her book, "…Keep the pressure of the breath against the chest at all times while singing."

Singers who have not had the advantage of studying the old Italian singing style, usually learn the concept of 'breath support', as if to **hold the breath up** from underneath. The concept of 'supporting' the breath from underneath, instead of 'leaning' it against the diaphragm, would require different words in the Italian language from the commonly used term, 'appoggio'. All through the history of Italian singing, 'appoggiare', which means 'to lean', 'to prop', 'to lean against', 'to allow gravity to affect the breath function by creating a sensation of weight against the inside of the chest', was used to denote the method of breath control common to all Italian singers throughout the history of Italian singing. "Sopportare" or "sostenere", the Italian words for 'support' or 'holding something up', **are never used in Italian singing** as concepts for breath control.

Faulty and Erroneous

'Support' is a confusing term for singers, much abused in the U.S. and the German speaking countries (the German word is 'Stuetze'). It is a faulty term, and an erroneous concept when applied to singing. When I taught singing in Germany and in Vienna, I used the reflexive form of the word for support, 'sich hinstuezten' (to support oneself **against** something). This term clearly explained to the German speaking students the concept of 'leaning' the breath instead of 'lifting' or 'raising' the breath by supporting it from the belly.

The breath should not be held in a generally constricted, , constipated function, or be pushed upward by abdominal pressure from below. It should be "leaned," or 'dropped', or **relaxed** downward and outward against the lower chest while singing.

"Push Down and Grunt"

The muscles of the lower abdomen must **never flex or harden** while inhaling or singing. Ideally, the abdominal wall (muscles) should **remain soft** while being drawn in during **inhalation**, and should be released **outward** while singing (Caruso's "contrary motion" to the act of drawing the abdomen **inward** while inhaling). The abdomen must never become hard like a brick wall. In fact, one reason to pull it in 'against the spine' (Amelita Galli-Curci {1882-1963}) when inhaling, is to totally neutralize the possibility that the muscles might flex. Pulling

the abdomen inward while inhaling, and relaxing it outward while singing, will guarantee that it cannot be involved in the production of sound. I've heard teachers say, "Push down as if constipated." and "Pretend you are lifting heavy weights." One needs to understand how wrong these ideas are: **pushing the breath down vertically** while singing will cause a **reactive pressure** of the breath **upward against the vocal folds**, restricting their vibrations, and reducing the sound to a strained grunt. Isaac Newton's (1643-1727) Third Law of Motion states that *"For every action there is an opposite and equal reaction"*. If we desire to enjoy the benefits of a free and loose throat while singing, we must not push the breath **downward**, instigating **reactive pressure upward** into the throat, or pull the abdomen **inward**, which will force the breath **upward**, creating **active pressure** in the throat. Vertical actions or reactions, other than absolute non-reactive gravity leans ('dead drops', successfully used by some severely obese singers), are not to be recommended. Breath control must be accomplished by utilizing diagonal 'leans', with the base of the breath column situated in the lower back, and the top of the breath column placed against the front of the diaphragm (the sternum).

The Devil's Circle

Try to speak while lifting a heavy weight without showing any signs of effect against the vocal folds. The reactive glottal closure will attempt to seal the breath in the lungs to assist with lifting. The vibrations of the vocal folds will be drastically affected by reactive pressure, and the result, if singing is attempted, will be a dead sound without overtones (or no tone at all if the strain is extreme enough!). Any abdominal strain can affect the closure of the glottis, and will require **displacement of pressure** (or **neutralization of pressure)**, accomplished by flexing additional muscles in and around the throat. The tension must be relieved or neutralized somehow, in order for the vocal folds to be able to vibrate at all.f An uninhibited, free glottal function is essential to accomplish tones with the harmonic ladder evident. Displacement of tension and/or pressure instigated by tension, will require additional actions in the throat to achieve relief of the glottal closure. The phonation of vowels, formed in a distorted pharynx, will be affected by reactive (opposite and equal) pressures between the activity of the muscles in the abdomen and the reactions in the throat. Each new set

of actions will have to be relieved, also, and will require its own set of compensating musclar actions and reactions.
Some singers become 'muscle bound' in the throat! It can be heard, of course, but it can also be seen, revealed to the observer as tendons or blood vessels that stand out from the neck during singing, and it looks terrible! The Germans have an apropos saying that clearly applies to actions requiring more actions to neutralize tensions. They call it a "Teufelskreis" (Devil's Circle).

No Action in the Throat

Singers, who doubt these effects in the singing voice, need only to push down as if they are constipated, while singing a tone. Instant glottal pressure will occur as a reaction. Compensation by other muscles will be necessary in order to relieve glottal pressure. It is impossible to sing free tones while **pressing the breath upward or downward. A**dverse effects on vocal production and endangerment of the vocal folds will have to occur as described by the Third Law of Motion. Vertical 'leans' (directed pressures of the breath supply to the voice) do not allow the beautiful, free-throated singing that we all love. Flexing of the abdominal muscles while singing can cause the glottis to close under **pressure**, reducing the voice to a choked off sound without resonance or overtones. We refer back to the first rule of great singing as described in the books written by great singers and teachers of the Bel Canto era. **"No action in the throat".** Upward pressure of the breath against the throat, active or reactive, is always the result of abdominal action. Flexing of the abdominal muscles must not be allowed to occur while breathing or singing.
Relaxed, loose-throated reaction in the throat to deep lower-back breathing is to be encouraged. The deep, diagonal inhalation into the lower back, assisted by the pulled-in abdomen, **relaxes the larynx and opens the throat vertically. The epiglottis and trachea open reactively and completely**. Breathing deeply into the lower back, while drawing the abdomen inward, will cause maximum contraction and lowering of the back half of the diaphragm. The response in the throat will be softly **reactive**, opening and **loosening the throat**. It will cause the throat to open **vertically** without flexing muscles around the vocal

folds. The soft palate will move **upward and forward** as **a reaction**, closing the nose, without conscious input by the singer.

"Never sing into the nasal cavity" –Caruso

Inhaling into the belly, and expanding it outward, does not cause the soft palate to lift up and forward as a reaction. The result of singing with a **non-reactive soft palate** will be nasality. This is easy to assess if the singer is open-minded and willing to explore the possibilities of the vocal organ. Try the two breathing methods and sing long sustained tones after each method of inhalation. The "belly-out" (sleeping baby) method of breathing, **without the assistance of supplementary actions**, due to the lack of reaction in the soft palate, will allow the voice to resonate directly into the nasal cavity from the beginning of the attack. Check this by pinching the nose closed while holding the tone. The sudden negative effect on the tone will be obvious.

Breathing into the lower back, especially with the abdomen drawn in while inhaling, will cause the **soft palate to rise upward and forward as an opposite and equal reaction**, thereby closing the nose and sealing off the nasopharyngeal chamber. This closure of the nasopharyngeal chamber will result in the resonance being placed **above the nose** and into the 'True Mask' at the beginning of the attack of the tone. The difference lies in the reaction of the soft palate to the two opposed methods of inhalation. If a breath is taken into an expanding, pushed out belly, the soft palate will not react. It will have to be raised **upward and forward** as a separate action in order to avoid nasality. Some singers have had success inhaling through the 'pre-sneeze' formation of the interior of the nasopharynx, in order to move the resonance from the nasal cavity upward into the True Mask. However, breathing deeply into the lower back precludes the necessity for additional action around the nasopharyngeal chamber. It will automatically be sealed shut by what Lilli Lehmann called "moving the back wall of the nose forward". Although it may sound like a comical idea, it is exactly what happens when we breathe into the lower back. The movement of the back wall of the nose can be identified, and used independently of breathing, by sustaining an "mmm" and suddenly trying to sustain "bbb", as in 'mmmbbah'. The nose will seal itself instantly in order to create the 'b'. It does the same thing when changing from 'nnn' to

'ddd'. As we know, the consonants 'b' and 'd' cannot be sustained. The breath is 'stopped', and the nasopharyngeal cavity is sealed off. If we begin to sing with the cavity sealed, the disturbance of the air inside it causes a sensation of vibrations in the upper face. In France, this is called 'Chantez dans la Masque' (Sing into the mask.). If the cavity is not sealed successfully, the resonance will fall to a lower level in the face and become nasal. Caruso's admonition was to "…never sing into the nasal cavity. It is against all the rules of song."

It is important to identify the Mask correctly. Zinka Milanov (1906-1989), Jussi Bjoerling (1911-1960), Elizabeth Schwarzkopf (1915-2006) and Franco Corelli (1921-2003) pinched their noses closed with their fingers during their warm-ups. Elizabeth Schwarzkopf liked to demonstrate what she called "…the elephant's trunk." She would squeeze the thumb and index finger tightly together at the junction of the nostrils with the upper lip, and pull the upper lip downward toward the floor, while sustaining notes and singing scales. She would sing through phrases of text and vowel combinations 'swinging the elephant's trunk' in a bent-over posture (a 'Mother Teresa' (1910-1997) posture), pulling the lip out and down the whole time. Franco Corelli grabbed his nose, sealing it with two fingers and pulling it forward and downward repeatedly while sustaining a tone. He was criticized in the newspapers for doing it on stage during performances. Leonard Warren 1911-1960) sang a series of vowel combinations and syllables beginning with the consonant "B", as in "Bah, Beh ,Bee, Boh Boo." He was a dedicated 'pre-sneezer', and recommended the 'pre-sneeze' formation of the nasopharynx to young singers. George London (1920-1985) also used the 'pre-sneeze' preparation for every attack, calling it "…opening the Mask".

In Germany I had noticed that several of the older singers with whom I sang would use "blah, bleh, blee, blow, blooh" for their warm-ups. I say 'older singers' because many of them had been singing in the 'German System' for forty or fifty years without a vocal problem!

The "open nose", and its resulting nasality, can easily be achieved by vocalizing on "ming, mang, meng, mohng, moong". It is exactly what is **not** wanted in singing and should be avoided completely, unless the singer desires to sound like a genuine country singer. The "m" placement will open the nose and cause the soft palate to fall down and back. The resonance of the voice, instead of passing over the hard

palate, will pass under the soft palate and directly into the nasal cavity. As a result, the voice will sound nasal and thin (like a country singer). The voice will be drastically reduced in its carrying power over an orchestra. Singers who use the 'mmm' placement of the voice need sound enhancement systems to help them be heard in big theaters. Singers who use the placement of the resonance of the True Mask can be heard in any theater and over any orchestra in the world without electronic assistance.

The Misdirected Soft Palate

Many singers try to lift the palate straight up or up and back to avoid a nasal sound. This technique will close the nose, but it will also close off the passage to the head. The stream of sound will have no choice but to pass **under** the soft palate and **under** the hard palate and proceed directly into the lower face(the nasal cavity or the 'False Mask'). Raising the palate straight up, or up and back, will cut off the passage to the beautiful head resonance. Inefficient solutions to achieve facial resonance cause one bad technique to build upon another. This approach leads invariably to some form of muscular chain reaction in the throat. Compensation techniques become necessary to help maintain the artificially created space in the throat. The strain of both singing with artificially created space in the throat and the complicated muscular process required to neutralize tensions around the larynx must be alleviated by exaggerating the activity of the support system. Unfortunately, this exaggerated activity is evident in many singers today. The 'tremolo' (an abnormally fast vibrato) has become almost the standard concept of 'vibrato'. It is a direct result of compensating for the artificially created space in the throat caused by lifting the soft palate up or up and back, and breathing in the belly or chest instead of into the lower back.

Caruso said, "…Never try to sing while you are still breathing in." This odd quote warns singers, who desire to produce the voice with a completely relaxed throat, that the 'breath stop'(the 'appoggio') must occur on the **exhalation of the breath. The breath cannot, by definition, be 'leaned' unless the process of exhalation has begun.** The 'appoggio' cannot be applied while Caruso's recommendation to draw the abdomen inward while inhaling is still in process. Unfortunately, this fact sometimes confuses singers and teachers to accept, and even

encourage, either a breathy attack or a 'glottal stroke'. Allowing breathiness to precede the tone indicates a lack of knowledge of the "appoggio' (the 'breath stop', the 'breath prop', the 'pressing of the chest').

Singing is Inhaling

Some singers have sung successfully with an exaggerated, continuous 'breathing in (inhalation) technique'. The drawing inward of the abdomen continues while singing, and the control of the diaphragm depends on the sustaining strength of the inhalation. However, this efficacy of this method of breath control, maintaining the diaphragm in a drawing in mode while singing, is limited almost exclusively to the German repertoire. Elizabeth Schwarzkopf was the most famous singer who used this vocal method, called in German the 'restraining method' ('Verhaltungsmethode'). She had a radiant, beautiful voice, but had international success only in the German repertoire, including, of course, roles in operas by Mozart. Her technique was perfect for singing the German language. Sung German requires that each word that begins with a vowel must be separated from the preceding word and enunciated anew. The "inhaling technique" is perfect for this vocal style. It sustains diaphragmatic control in the silences between words, and allows for an evenness of the required, repeated attacks on each new vowel. The 'Verhaltungsmethode' requires that the abdomen remain in the 'inhalation mode' (pulled inward) while singing. It is not Italian singing, of course. In the Italian style of singing, the breath is **not** controlled by restraining the breath with the ribs expanded, but by the **lean against the lower chest**, with the ribs in the lower back collapsing or 'squeezing like a bellows' and the abdomen relaxing outward and downward. The slender breath used for the creation of the tone is **sent** from the lower back against the lower chest, **without allowing any hint of interruption of the emission.**

Germans Who Sang the Italian Way

A list of great German singers, who sang with the old Italian method of 'leaning the breath,' would include Frieda Hempel (1885-1955), Fritz Wunderlich (1930-1966), Friedrich Schorr 1888-1953), Frieda Leider (1888-1975), Joseph Schmidt (1904-1942), Selma Kurz (1874-1933),

Paul Schoeffler (1897-1977), Frederick Dahlberg (1907-1988), Fritz Wunderlich (1930-1966), and the great Lilli Lehmann (1848-1929).
Kirsten Flagstad (1895-1962), Lauritz Melchior (1890-1972), Lluba Welitsch (1913-1996), Helge Roswaenge, Frederick Dahlberg (1907-1988), and Jan Kiepura (1902-1966), although not Germans by nationality, should be included on this list. Their careers were made by singing predominantly the German repertoire, but their vocal techniques were completely modeled on the Italian 'legato' (continuous, uninterrupted sound) style. I knew Melchior, Dahlberg, and Roswaenge personally, and their technical approach to singing was the 'appoggio' method. According to Melchior and Roswaenge, Flagstad and Welitch used the same approach to breathing and support that they used.

"Don't Make Bubbles"
In the "Verhalten" German vocal style, the breath control is achieved by continuing the inhaling process of the diaphragm and the ribs, creating a 'breath stop' (Lilli Lehmann's term. It German it is 'Atamstauen') by maintaining the inhalation pressure of the breath against the expanded ribcage. One of the old maxims in singing is "Singing is Inhaling". This type of support method is a variation of the 'candle flame' exercise. Ernst Kozub (1924-1971) described it as "trying to sing underwater without making bubbles!"
The exercise of singing with a candle flame in front of the lips without disturbing the steadiness of the flame is a good exercise for both German and Italian vocal styles. Instead of **sending out** the right amount of breath to produce tone, which is the crowning achievement of the Italian vocal stylist, which creates an uninterrupted emission of the voice, the German vocal stylist restrains the excess by **maintaining the inhalation command**, and **lets just enough breath escape** to make tone.
The difference between the two methods is much more than just psychological. The constant restraining of the breath prevents emotional, and, especially, sentimental singing. Beniamino Gigli's (1890-1957) 'sobbing' method would have been impossible if he had used a 'restrained breath' method of support. However, the 'Verhaltungsmethode' is perfect for singing music that requires more of an instrumental approach; i.e. Mozart, Bach, Lieder of the greatest

German and Austrian composers. The most effective "Liedersaenger" (singers who specialize in the performance of songs composed by major classical composers) use the "Verhaltensmethode" (restrained breath method). Dietrich Fischer-Dieskau (1925-) and Hermann Prey (1929-1998) used the "restraining method" very successfully. They both used a variation of the 'pre-sneeze' technique that created a particular formation in the throat and trachea. The action/reaction process that resulted caused a holding reaction in the breath, which they sustained by keeping the upper ribs expanded. The result was extraordinary control. Fischer-Dieskau, especially, developed the ability to sing very softly with expressive colors and very clear diction. It is interesting that Prey's best friend, Fritz Wunderlich, tried to change the baritone's 'restraining method' to a 'leaning method'. The effort was not successful.

Variable Success

In general, singers who specialize in the song repertoire do not enjoy the same level of success in Italian opera that they do in the concert field. Fischer-Dieskau's attempts to sing Italian opera were notably unsuccessful. The international critics in Salzburg who heard Fischer-Dieskau's attempt to sing Verdi's "Rigoletto" as part of the Festival wrote the most caustic, horrible critiques of his portrayal of the title role that I have ever read. One of them asked, "How can Herr Fischer-Dieskau presume to dare to offer us (in the German language, the word was 'zumuten'!) a pitiful, weak, vocally thin, barking interpretation of "Rigoletto"? Was it really necessary to accent every note and separate every two notes? Could he not have sung a phrase legato one time in an entire performance, if only for variety? What an artistic disaster! It was the worst kind of arrogance to expect us to accept what he perpetrated on the stage as "Rigoletto". Hopefully, he will never attempt to sing Italian opera again!"

The most interesting thing about this review was the critic's surprise and anger. This same critic worshipped Fisher-Dieskau as history's greatest interpreter of German Art Songs!

Barking at Verdi

Singers who are interested should listen to Robert Merrill sing "Rigoletto's" opening line and compare it to Fisher-Dieskau's. The

difference is dramatic! Merrill sings it in the Italian vocal style without accents and with every note bound to the next note. It is a beautiful example of 'legato' singing. The line I have in mind is "In testa che avete Signor di Ceprano?" Then listen to Fischer-Dieskau butcher the same line! There is no legato at all. Each note is separated from its neighbor. Accents are repeated where Verdi did not ask for them! 'Barking' is probably the best word to describe this German singer's vocal approach to Italian opera! He used an explosive emission of the breath on almost every note which can only be described as 'barking' Fans familiar with his recordings of Lieder know that his usual approach to music and singing did not include barking.

Singers who desire to sing Italian opera will do well to heed Signore Caruso's advice.

"Do not try to sing while still breathing in!"

First, breathe into the lower back with the abdomen moving inward.
Initiate the process of singing by sending the breath from the lower ribs in the back against the lower chest (the 'lean' of the breath, also called the 'appoggo', the 'breath prop', the 'breath stop', or the 'pressure of the breath'), while the abdomen moves outward and downward.
Do not start singing while still in the inhaling function. You may be able to sing Lieder beautifully, but forget Italian music! Wouldn't it be better to sing in the Italian style and be able to sing every kind of music beautifully? In modern times, Fritz Wunderlich, a German tenor singing German repertoire in the German language in Germany, proved that it is not only possible… it is preferable!

Conflicting Vibrations

As if nasality and muscular compensation techniques in the throat were not enough to ruin the natural beauty of the voice, some singers add even more action in the throat by forming a cavity or cupped shape in the tongue. Of course, it is impossible to shape the tongue without flexing muscles. The rule of "No action in the throat" seems to have been forgotten, or, perhaps was never known. Many so-called voice teachers have never sung at all. Some are voice therapists. One colleague I had on the faculty of a major university, had a Master's

Degree in Biology! She had never sung a note in her life! Certainly, no singer who has sung many difficult roles over many years would suggest forming the tongue into a cup! It sounds like a parody by Victor Borge (1923-2005) on singing technique! The mechanically lifted palate in any direction except up and forward, as a result of separate command, and not by **reaction** to deep breathing, **closes** off the passageway that directs the voice **over** the soft palate and into the head. It prevents the flow of the resonance into the upper half of the face. The 'True Mask' is not where we wear a 'bandana'. It is where we wear glasses. If the soft palate is lifted, either actively or reactively, **in any direction but upward and forward, t**he resonance of the voice is absorbed into the mucous membranes and flesh in the throat. Cupping the tongue causes it to contract, which pulls upward on its root. The root of the tongue, shortened by contraction, tugs the larynx upward and affects the opening of the epiglottis. The tendency of the larynx to rise must be neutralized by adding muscle activity in the throat to keep the larynx in place.

An epiglottis that is only partially opened reduces the flow of sound coming from the larynx. Vibrations in the throat that cannot pass upward into the skull conflict with each other. The resulting clash of sound trapped in the upper tracheal space (throat resonance) will artificially color the tone and contribute to a lack of projection. This activity in the throat can alleviate some of the nasal resonance, but will draw the voice back and away from the frontal resonance of the upper face known as the 'True Mask'. The resonance of the voice will collect in the lower mouth cavity which is already enlarged by the cupping of the tongue. These actions cause tensions in the throat, and will require another muscular action: the singer must now narrow or close the Pillars of the Fauces in order to achieve any frontal resonance at all. This low facial resonance (nasality) is usually created by vocalizing on words like "ying, yang, ming, mang", ignoring Caruso's admonition to **"…never sing into the nasal cavity"**. He said, "You can breathe through the nose, but you must never sing through the nose." The "ng" position, although **in the face**, places the voice into the nasal cavity, and the resonance flow is directed into the nose and **under** the True Mask. Teachers and coaches who have very little singing experience usually cannot tell the difference between a sound that sits too low in the face and a correct sound that sits correctly in the upper face.

The True Mask

The **True Mask** is across the upper face, where we wear glasses (Helge Roswaenge said, "Sing through the eyes and the eyebrows, not into the cheeks!").

The **True Mask** is **above** the nose and **never** in the nose or through the nose. It is above the 'ng' resonance line. "Never sing into the nasal cavity. It is against all the rules of song." (Enrico Caruso)

"The T**rue Mask** has nothing to do with the nose or nasal resonance. The nose must be closed and tightly sealed shut while singing. This is achieved by using the 'pre-sneeze' formation, or vocalizing by using the consonant 'b' or 'd' in front of every sound. Never vocalize using 'm' or 'n' ."(George London).

The **True Mask resonance** is the result of "…the **flow of the vibrations** of the vocal folds. They proceed as follows:

They pass up from the larynx through the open epiglottis.

They continue through the lower pharynx and the upper pharynx.

They pass up the back wall of the throat.

The vibrations (the sound) pass behind and over the forward lifted soft palate.

They follow the natural, open path that passes **over** the hard palate.

They continue until they strike the hard surfaces of the **upper half of the front of the skull**, **well above the bridge of the nose**."

(Lilli Lehmann)

"La maschera nel canto (the mask in singing) has nothing to do with the sinus cavities in the cheek bones. They are too low in the face. We must sing from low in the back of the neck, and allow the resonance to angle upward and pass over the soft palate, until it arrives **above the level of the cheeks and the bridge of the nose**. The sound must resonate into the eye sockets, the eyebrows, and the forehead."

(Mario del Monaco, 1915-1982).

The resonance of the True Mask is the result of vibrating air in the nasopharyngeal chamber, which must be sealed completely by lifting the soft palate **up** and **forward.** The movement of the soft palate, upward and forward, can be achieved by a mechanical command (Lili Lehmann's "move the back wall of the nose forward"), or by creating the 'pre-sneeze' formation of the interior of the nose (George London

and Leonard Warren), or by trying to sustain the consonant "B" as in Bob, or the consonant 'd' in Dad. Of course, neither can be sustained, because the 'back wall of the nose moves forward' and seals the nose. The best way to achieve the lifting of the soft palate up and forward is by breathing deeply into the lower rear quadrant of the lungs (ideally, with the abdomen moving inward to increase the drawing in response of the lower ribs in the back), causing an **opposite and equal reaction** of the soft palate (the movement up and forward). The nose will be sealed reactively, with no separate, mechanical command to lift the soft palate necessary. Singing with the resonance of the voice placed too low in the face, below the 'True Mask' (nasally), will be impossible.

'Breathing the Throat Open'

Lili Lehmann instructed us to "pull in the abdomen using the breath jerk" (a violent pull of the abdomen inward just before the beginning of the silent inhalation through the nose), and to breathe deeply into the lower rear quadrant of the lungs. This way of breathing causes **the soft palate to automatically react by moving upward and forward**. Some singers, including George London, Maria Callas 1923-1977), Jenny Tourel (1900-1973), Fernando de Lucia (1860-1925), Hilde Gueden (1917-1988), Belen Amparan (1927-), Caesare Siepi (1923-2010), Paul Schoeffler (1897-1977), Victoria de los Angeles (1923-2005), and Nikolai Gedda (1925-), **smiled exaggeratedly when inhaling through the nose and into the lower back**. In some cases (Gedda, De Los Angeles, De Lucia, Callas, and Tourel), the smile was exaggerated almost to a grimace. George London called the smiling action, combined with deep, silent breathing through the nose and into the lower back, "…opening the mask". It was London's belief, that the "pre-sneeze" formation of the nasopharyngeal chamber was expanded and sealed off **reactively** by deep, silent breathing through the nose, and into the lower back. The component of the smile, or simply pulling the corners of the mouth back, while inhaling through the nose, was necessary to prepare the pharynx to phonate the vowels through the 'stai' formation in the back of the throat. Both the 'stai' and the open smile create a horizontal formation of the mouth and the upper throat. Pulling the corners of the mouth back was considered essential to the 'open throat'. Rosa Ponselle said that Caruso told her to use her breathing to "keep a rectangle in the back of her throat at all times".

Marcella Sembrich (1858-1935), the most famous exponent of the Lamperti School of Bel Canto Singing, taught her students to maintain the shape of the mouth and throat like an "…oval lying on its side". Caruso said to "…keep the mouth well open at the sides." Inhaling into the lower back opens the throat **vertically** downward, preventing any partial closure of the epiglottis. Breathing through the 'stai' form, while pulling the corners of the mouth back, unhinges the jaw and opens the throat also **horizontally**. Both the **horizontal opening and the vertical opening** are necessary in order to open the throat completely and correctly. The 'breath stop', (called 'Atemstauen' in German and 'Appoggio' in Italian), which Lilli Lehmann and Luisa Tetrazzini both described as the "pressure of the breath against the chest", keeps accumulated breath from escaping from the lungs until it is required for singing. The 'breath stop' allows the small amount of air needed for singing to be sent from the lower back to the vocal folds. The impetus provided by the squeezing of the lower ribs in the back of the body provides the uninhibited flow of the correct amount of breath to carry the sound from the larynx directly through the open epiglottis, and **up the back wall** of the throat.

Some singers feel the action of the opening of the back of the throat and orient themselves there psychologically while singing. Joan Sutherland, Franco Corelli, Mario Del Monaco, Belen Amparan, Giuseppe de Luca (1876-1950), Jenny Tourel, George London, and Nikolai Gedda, among many others, including Caruso and Lilli Lehmann, all described an awareness of the vowel placed low in the back of the neck.

I asked Mario Del Monaco what his teacher had told him to think about while singing. He said that his teacher had constantly repeated two words… 'profondo' e 'brillante' (deep and brilliant). The 'profondo' aspect of the sound was provided by deep inhalations into the lower back. The 'brillante' aspect of the sound was provided by the 'stai' shape in the back of the neck, and by pulling the corners of the mouth back exaggeratedly to unhinge the jaw.

The sound continues its path up the back of the throat and passes **over** the soft palate and **over** the hard palate and into the **upper** face, causing the air trapped in the nasopharyngeal cavity to vibrate **above** the bridge of the nose. The resulting vibrations of sealed off air in the

nasopharyngeal chamber, in the upper half of the front of the face, define singing in the "True Mask".
Lifting the soft palate in any direction except **up and forward** will allow the soft palate to move back against the pharyngeal wall and close the passageway to the head. This mistake will cause the resonance to pass **under** the hard palate and directly into the nasal cavity.

Nasality and Sound Enhancement
The concept of 'focus' has become the rage in New York. The nasal resonance is actively taught and sought! Singers who have performed often with big orchestras know this: the nasal focus will make the resulting tone sound thin, especially at a distance and over an orchestra if it is heard at all. Tones placed into the nasal cavity will be without color or amplitude. That is why Caruso said, "Never sing into the nasal cavity. It is against all the rules of song". He did not have the benefits of sound enhancement!
. Experienced singers, coaches, conductors, and managers know that nasal voices are always small in the theater. It was common knowledge as recently as the end of the 'Bing era' (1950-1972) at the Met. Part of the legend surrounding Sir Rudolf Bing's (1902-1997) 'was, that he would wander from place to place in the back of the auditorium of the old Met during auditions and performances, to find out if the voice of a new singer was projecting over the orchestra or not. So far as we know, no one does that anymore. They don't need to. The new Met at Lincoln Center has a sound enhancement system!

The nasal focus has become acceptable since the invention of electronic sound amplification. At last, nasal singers can be made audible, although many of them sound terrible! Many theaters in the U.S. have installed 'built-in', so-called, 'invisible' sound enhancement systems. Microphones are not seen and the loudspeakers are blended in with the proscenium in a way that the audience often has no idea that the sound is being artificially enhanced. This provides artificial volume to small, nasal, unattractive voices, and allows small-voiced singers to perform in large venues. It is a tragedy for the continuance of vocal art, and, in a way, for the singers who have been taught to place the voice into the nose. They will never develop into great vocal artists. When they perform without the assistance of amplification, which is very rare indeed, everyone realizes that the voices are

completely inadequate in every way: thin, colorless, and generally inaudible. No one seems to understand that the voice can be made to sound inadequate in a large venue by singing with a faulty technique! It is obvious that, if I speak to someone through my nose, my voice will sound 'narrow', thin, and nasal. Yet, singers study with teachers who teach their students to place the voice into the nasal cavity. These teachers have never sung major roles in large theaters with huge orchestras. Many voice teachers were never singers at all.

Synchronization is to be Expected

Sound enhancement systems now make it possible for vocal music composed by great composers to be sung by singers using the tricks of pop singers. Will synchronization on stage be next? The Art of Singing has already suffered the loss of criteria established long ago by singers who had to deal with the problems of projection of sound and text over an orchestra and into a huge theater. They had to project characterization and emotional coloring of the voice so that every member of the audience could hear the story line and appreciate the interpretation of the role. There was no sound amplification other than the phenomenon of the resonance of the True Mask. Imagine hearing a brand new opera or musical today without amplification. We wouldn't be able to hear the vocal music, the text, the emotional coloring of the voices, or be able to follow the story line.

Good Singers Don't Need Help

Of course, there are still a few singers who sing in the true mask. Luciano Pavarotti (1935-2007) was an example of a singer who did not need any form of amplification. His voice was placed correctly. He proved that a well-placed voice needs no amplification, and in those instances when he did use amplification, he sounded better than anyone who sang with him, except for Joan Sutherland, who sang beautifully.

It was amazing how well his voice projected over the orchestra and streamed out into the auditorium. He was the living proof that, in order to sing well, the use of the 'appoggio' provides everything that is necessary for great singing. When asked about vocal technique, he never mentioned the nose, or 'focus', or covering, or lifting the soft palate, or vowel modification, or any kind of action in the throat. All

he talked about was **breathing and 'pushing' his lower chest outward while singing**. Of course, his observations were, for the most part, ignored by the singing teachers who heard his comments. One teacher remarked disdainfully, after hearing Luciano Pavarotti in a Master Class at the Juilliard School describe his support method to be "like a baby. Push, push, push! Against the chest!" (He was demonstrating by putting his hand on his lower sternum and moving it forward and outward.), "He doesn't understand how he sings. He is just a natural singer." Well? Isn't that the idea? Are singers stupid and ignorant if they sing in a way that makes it sound 'natural' instead of labored and nasal?

It has become obvious that singers no longer have to sing correctly to be heard by an audience. The magic of electronic enhancement technology can easily make the weakest voice sound like it is full of overtones and power. Any nasal singer can stand next to Pavarotti in any theater that has a sound enhancement system and sound as powerful as the greatest singer in the world. Amplification allows singers to sing in a nasal placement of the voice that is "…against all the rules of song" (Caruso) and get away with it!
Alas, poor great singers! I knew some of their voices well.

"Just Speak the Sounds!"
Most Americans speak nasally to a certain degree, depending on where they grew up in the U.S., and from whom they learned to speak. The experts say we speak a 'Mother Tongue', learned, literally, from our Mothers. That means we learn a 'Mother Accent', and a 'Mother Placement' of the voice. If Mom spoke nasally, the children will speak nasally, also. Those singers and teachers, who believe that it is necessary to only
'speak' while singing, forget that most people do not speak correctly! Country singers and pop singers may be able to rely on the concept of simply "speaking" while singing. They also have a major advantage in live performance situations because they use state-of-the-art amplification systems. Opera singers have to contend with huge theaters, thick orchestrations, and be able to sing in several different languages. They have to learn to speak **correctly,** if they don't want to sound like pop singers or country singers trying to sing opera! Just as an aspiring Shakespearian actor must learn to speak correctly (can your

imagine doing KING LEAR with a New York or South Carolina accent?), a singer must learn to phonate vowels and control the breath in order to use a 'speaking method' while singing. In other words, the speech method and placement of the voice must be based on the same principles of vocal health and the necessity of projection into large theaters (live theater without the aid of amplification) that singers are supposed to learn when studying singing: correct breathing which relaxes the throat, phonation of vowels in different languages, and a method for controlling the emission of the breath while singing or speaking. Many singers have to speak dialogue in performance. Their 'natural' way of speaking will not always project into the auditorium without pushing or forcing the voice, and they may sound provincial. Projection of the voice, in a theater without sound enhancement, depends on the placement of the voice in the True Mask, and a correct method of breathing and breath control. Many singers and actors sing and speak into the nasal cavity instead of **above the bridge of the nose,** which causes the voice to lack clarity and projection in a large space.
It does occur that some people speak beautifully without training, but it is very rare. Most actors with great speaking voices, like Gregory Peck (1916-2003), Olivia de Haviland (1916-), Basil Rathbone (1892-1967), Walter Pidgeon (1897-1984), Lawrence Olivier (1907-1989), Peter O'Toole (1932-), Richard Burton (1925-1984), (Singers and actors who have not seen the movie, BECKETT, should rent it immediately and listen to Burton and O'Toole speak!), Albert Finney(1936-) (Rent THE DRESSER, too, and listen to Finney speak!) were all taught how to speak correctly. The best 'speaking technique' today is to be heard when Michael Gambon (1940-) speaks. Gambon does everything correctly. His tone is magnificent and his diction is flawless and his breath supply is endless. Perhaps these great actors could have become opera singers if their incredible talents had included musicality and the desire to sing. The 'speaking on pitch technique' would work in such cases!

An Accent from Hell

A leading baritone of the Scottish National Opera in Edinburgh came to me because he needed to learn how the sing in the Italian vocal style. The newest roles he had been given were three composed by Giuseppe Verdi: "Rigoletto", "Count De Luna" in "IL TROVATORE", and

"Germont" in "LA TRAVIATA". All of these new roles presented linguistic and style criteria easily presented by an Italian baritone. However, non-Italians must learn a few things if they want to fulfill the vocal style required by that music. He knew how to sing the notes of the music with his magnificent voice, but what were the necessary techniques to make him sound like an Italian baritone?

We began working on inhaling into the lower back while drawing in the abdomen. At the same time, he pulled the corners of his mouth back, unhinged his jaw, and phonated all of the vowels in the music in the resulting 'Stai' formation.

After an intense session of discovering the True Mask, he told me the following. " Dew Yew Kneeooow? Yee're teeching mee tew seeeng tha weeeyy theeey treeaayid to teeech mee tew speeeck a' tha Ooooollld Veeeeck Scheeooll." (Do you know? You're teaching me to sing the way they tried to teach me to speak at the Old Vic School!)

He went on, speaking with a fierce Scottish accent the whole time, which I won't try to write out phonetically! "You know, I wanted to be a Shakespearean actor! I attended the Old Vic School with the most serious intentions. As it turned out, they could na get rid of me accent! All I was allowed to do was play "Duncan" and "Macbeth" over and over! After a while I got bored to death, so, I decided to become a singer."

A Slightly Different Approach

As it happens, some of the techniques I was wanted to teach him were exactly the same ones aspiring actors in London have been learning since the sixteenth century. Some were different, because the obsession with the looseness of the jaw that I try to teach was, apparently,not a concern. One useful exercise he was taught by the the speech instructors at the Old Vic (and one that made me a little nervous) had made him keep the tips of his front teeth touching lightly with the corners of his mouth pulled extremely back while speaking the standard vowel combinations: "How now brown cow?" "The rain in Spain stays mainly on the plain." "How do you do?" I was not against this exercise as long as his jaw remained loose, but I did want him to create the proper phonation space in the back of his throat by adding something. I asked him to smile a big smile and inhale silently through his nose, "…like smelling a flower" (Tetrazzini), and as deeply into his

lower back as possible. If he could do it properly, the smile would open the back of his throat (the pharynx) horizontally at the same time the deep breath into his lower ribs ing the back would open his throat vertically. Giovanni Lamperti said, "The open throat in the Italian school of singing is the same shape as the 'Ah' in the Italian word 'Stai'". Caruso said, "…The open throat (the 'stai' form and the vertical form) is maintained through the **power of the respiration**." That meant that I had to teach him to maintain his breath deep in his body by using the 'appoggio' (the 'breath prop) to prevent the breath from leaking up into his throat. As I explained to him, the ideas I was suggesting were not exactly original with me! They have been around as long as singers have tried to emulate the old vocal discoveries of the Castrati. By breathing his vowels into the 'Stai' form and using breath sent to the larynx from the lower ribs in the back, he was able to sing and speak without an accent! He considered it a miracle. Actually, it was perfectly normal and to be expected from such a marvelous vocal talent.

"Squish, squish, squish!"

Inhaling while allowing the belly to expand outward does not cause the soft palate to lift upward and forward as a reaction. This faulty breathing method, because of the lack of response in the soft palate, directs the path of the voice straight into the nose, exacerbating any nasal tendency, and generally causing incorrect actions and reactions in the throat. Franco Corelli, in a Master Class in New Jersey said, "…The American singers all sound like they are singing through a straw!" He indicated a pinching motion in the throat with his fingers, and said, "…The American throat goes **squish, squish, squish**!" Swelling the belly outward while inhaling, causes the soft palate to flatten downward, causing the resonance of the attack to pass **under** the hard palate and enter into nasal cavity. Caruso warned in his book against singing into the nasal cavity. "It is against all the rules of song". Most teachers and singers, who don't understand this reaction in the throat, recommend lifting the soft palate up and back. This is usually a very poor compensation technique for the results of faulty, reversed breathing, and requires even more actions in the throat to get the voice to resonate in the face. Unfortunately, the singers have to resort to narrowing the Pillars of the Fauces to create 'focus'. The most common

compensatory techniques are accomplished by using the 'ee' (i) vowel, or a combination of 'ee' and 'ng' (Ming, mang, meng, mohng, moong, etc.

Sniff, Sniff, Sniff

Giovanni Martinelli (1885-1969), who sang the most difficult dramatic roles in the Italian operatic repertoire during a 32 year career at the Metropolitan Opera, said to pull in the abdomen, breathe into the lower back, and maintain the "preparation to sneeze" at all times while singing. Tetrazzini said to practice taking long, silent breaths through the nose and into the "…lower rear quadrant of the lungs, as if smelling a flower". The observant student will notice that the sensation in the nostrils and in the nasopharynx while 'smelling a flower' will resemble movements we make while preparing to sneeze. Lilli Lehmann described the function of the soft palate as "…moving the back wall of the nose forward."

Timbres and Nasality

Singing with nasality because of incorrect breathing, or by deliberately placing the voice into the "M" or 'ng' position, will eliminate the spectrum of possible colors in the voice. The singer becomes limited to one color of expression (a nasal one!). The choice of vocal color, easily changeable if the voice is not placed in the nose, can be sad, happy, wistful, yearning, or nostalgic. These possible colors are called 'timbri' in Italian. Practice saying, "I love you" or "I hate you" or "I'm happy" or "I'm sad" with the voice placed in the nose. It becomes impossible to make a clear distinction between the emotional colors demanded by a composer, including composers of Art Songs. Everything sounds the same color, in spite of the words, which may be suggesting opposing sentiments. Unfortunately, happy expressions and/or sad expressions become indistinguishable in color if the voice is locked into the nose. In real conversation, we must allow the expression generated by thought and feeling to influence the **timbre** of a sound. Otherwise, we cannot convince anyone that we mean what we say. "I love you" should not sound the same in its 'timbro' as "I hate you". How do we express colors without words? How many 'timbri' can you successfully sing while singing a sustained 'Ah' vowel? A laugh can sound happy or sarcastic, depending on our intention of expression, without the

need for words. Nasal placement negates the differences between intentions of colors, expressions and interpretations. We may want to send a happy message, but sarcasm may be the color communicated due to nasality. Singers should practice exercises using various vowels and expressions. Try to change the colors of the expressions without using any words by using imagination only. It is not possible if the sound is **dominated by nasality**.

Thinking Makes it So

It is important to understand the distinction between the 'quality' of the voice and the color or 'timbre' the singer uses to express an idea. 'Quality' is the word used to describe the basic sound of a voice that makes it unique and identifiable. The quality of a voice remains the same whether or not it is expressing joy, nostalgia wistfulness, wonder or sadness. Every voice on the planet has its own quality. Various law-enforcement agencies use technologies that can absolutely identify any individual by 'voice-print' (the basic 'quality of a voice'), just as readily as if they were using fingerprints, even if the individual is happy or angry, friendly or sarcastic. However, each individual person is capable of many emotions and expressions, which are reflected in the color of the voice as individual "timbres". In singing, if the breathing has prepared a free throat, the sound of the voice can reflect thoughts that inspire a constant change of emotional colors. The opportunities for expression are limited only by the artist's imagination, or the lack thereof. Every voice, from deep bass to high soprano, can express joy, sadness, nostalgia, etc., simply by thinking, if the throat is relaxed, and not locked into a predetermined shape that can produce only one 'timbre'.

Over or Under

In the case of a singer who is taught to be a practitioner of the nasal placement, often disguised psychologically as 'focus', he or she must either accept the nasal sound, or lift the soft palate up and forward in a separate, mechanical action, to achieve as much of the resonance of the upper half of the face as possible (the True Mask). The sound must go **over** and **above** the "nngg" or "Mmmm" resonance line, which can be sensed across the bridge of the nose, to achieve the Ttrue Mask.

Never sing into the "ng" line or the 'mmm' line or under it. Lifting the soft palate straight up or up and back can cause the passage to the head resonance to close, causing the sounds made by the vibrating vocal folds to pass **under** the hard palate instead of over it.
This path the voice should follow, as described by Lilli Lehmann, avoids the nose all together, placing the resonance **above the nose** and into the True Mask, thus conforming to Caruso's admonition: "…Never sing into the nasal cavity".

Paine, Thomas (1737-1809)
"Perhaps the sentiments contained in the following pages are not yet sufficiently fashionable to procure them general favor; a long habit of not thinking a thing wrong, gives it a superficial appearance of being right, and raises at first a formidable outcry in defense of custom. But the tumult soon subsides. Time makes more converts than reason.
In the following pages, I offer nothing more than simple facts, plain arguments, and common sense; and have no other preliminaries to settle with the reader, than that he will divest himself of prejudice and prepossession, and suffer his reason and his feelings to determine for themselves; that he will put on, or rather he will not put off, the true character of a man, and generously enlarge his views beyond the present day."

It is to be noted that when everyone around us does the wrong thing, even if it goes against the very clear instructions of the greatest singers in history, it becomes not only acceptable, but is considered to be correct. Because of the general acceptance by people who know no better, wrong becomes right through common practice.

Been There, Done That
Instead of blindly accepting the vocal methods that are commonly propagated today, singers should rely on the opinions of the greatest vocal Artists in history who have "been there, done that". How many voice teachers have actually sung the major operas of the great composers? Only in many performances, over many years, in big

theaters, and over big orchestras, can a technique be truly tested. Projection of the voice and text over the orchestra, emotional "timbres" in accordance with the interpretation of the text, and the stamina necessary to fulfill the criteria of an entire role, are immediate requirements in live performance. The breathing methods of the greatest singers will provide the aspiring vocalist with the technical approach to the fulfillment of the criteria of the most difficult roles in each singer's respective category.

The Proof Lies in Good Vocal Health and Longevity

A vocal method should last for a lifetime of beautiful singing that will fulfill the criteria of the singing profession without vocal problems. There should be no artificial factors, like nasality, tongue shaping which causes tension in the throat, lifting the soft palate in any direction but up and forward, belly-outward inhalations, or inward or upward movements of the abdomen while singing. One advantage of having taught singing for over 50 years is that I have students who are actively singing professionally after studying with me over forty years ago, thus proving the validity of the vocal method I advocate! Longevity should be a criterion for any career in any field. Unfortunately, there are teachers, who have never sung anywhere, whose students have never won a competition or been hired by an opera company, who are teaching completely wrong vocal methods. Some of these methods lead to damage of the vocal folds and to total ruination of beautiful young voices. In 1974 I had three students come to me from the same teacher. Each student had nodules on their vocal folds! What could have been so wrong in the method they had learned that could cause such damage to young voices?

As it turned out, all three had been taught to expand the belly when inhaling, to pull the belly in while singing, and to 'focus' the voice into the narrowest part of the top of the nose. They would 'pinch' the top of the nose right between the eyes while vocalizing! Needless to say, all three were 'cured' of their vocal nodules within six months by applying correct breathing techniques and relaxing their throats. Their voices became healthy and perfectly responsive to an even vocal emission. Today, some 35 years later, all three still have clear, healthy voices!

Different Times, Different Reasons

When Richard Tucker or Lucine Amara (1924-) gave me vocal advice, I listened with respect. Both had proven for many years that their understanding of how to sing was based on solid principles. I wanted to learn those principles, and compare them to what I heard and read about vocal methods that were recommended by other great singers. It is one thing to say that a certain technical concept will work. It is quite another to have proven it over a Wagnerian or Verdian orchestra for 4 or 5 hours at a time, and for 30 or 40 years!! Tucker sang at the Met for thirty years, and Amara sang at the Met for 41 seasons and sang 56 roles during that time.

Another advisor, with whom I studied during the winter of 1970-71, Helge Roswaenge, sang for 55 years, seven days per week, 3 times a day, and never had a vocal problem! He would rehearse in the morning, make recordings in the afternoon, and perform every night, seven nights a week! When I asked him to what he attributed such incredible longevity, he answered, "Yoga, and the book on singing by Enrico Caruso". His approach was simple: Pull the abdomen **inward while inhaling before singing**, and drop the abdomen **outward while singing,** in strict conformity with the advice presented by Caruso in his book. He also practiced 3 hours of Yoga every day! There was no conflict for him when asked about the abdomen going **outward** while doing Yoga inhalations and **inward** while doing Caruso inhalations. "I am not singing when I do Yoga", he explained. "The Yoga inhalation develops the entire breathing capacity and lowers the 'center' deep into the core of the body. It helps to get the mind and body connected to do one thing as one unit. The inward movement of the abdomen while inhaling is **a specific preparation for a specific function. In this case, it is the act of singing**. The two inhalation methods happen at different times for different reasons. If I sing while doing my Yoga postures, I pull my abdomen in with each inhalation and let it out for every attack."

Reversing the Megaphone

People begin to expect nasality in singers, calling it 'focus'. 'Focus' has become a term that is used to describe a narrow placement of the voice in the nasal cavity, below the True Mask. Teachers who were never real singers want it, coaches who were never singers at all like it, but audiences hate it and make fun of thin, squeaky voices that are

dominated by nasal resonance. The 'focus' concept, created by narrowing the Pillars of the Fauces, drastically diminishes the potential fullness of the voice, and can be responsible for making even naturally large voices sound small, narrow and 'pinched'. Ask yourself which end of a megaphone you speak through if you want the sound to project to an audience. Do you speak into the large, open end, hoping that the narrowing of the small end will focus the sound? Do you hope the small hole at the end of the megaphone will somehow condense the sound and make it carry to an audience? Of course not! Yet singers allow themselves to be deceived, cajoled, and flattered into making sounds that the greatest singer of all specifically warned us not to do. **"Never sing into the nasal cavity. It is against all the rules of song."**

The Band Shell and the Megaphone

Caruso talks about opening the mouth "…in a gentle smile, keeping the sides of the mouth 'well open, also'." Rosa Ponselle said that Caruso told her to "…keep a rectangle in the back of her throat". A quote by Geraldine Ferrar (1882-1967) may be appropriate here. Ferrar said, "When discussing singers, there are two that must be set aside: Caruso and Ponselle." How interesting that the two greatest voices in the history of Italian singing both talked about a rectangular form in the back of the throat. Caruso said to attack the 'ah' vowel "…far back and low in the throat". Rosa Ponselle (1887-1981) said that she tried "…to keep a rectangle in the back of her neck at all times", because of Caruso's recommendation! It certainly worked for her, and, apparently, for her mentor! G.B. Lamperti said, "The open throat in the Italian School of singing is the same shape as the bright 'ah' vowel in the Italian word, 'stai'." The shape of a bright 'ah', as in 'fly, cry, sigh, ice' in English, or 'eins, zwei, drei' in German, or the word for 'yes' in Japanese, 'hai', or the 'ah' in 'memoire, moi, toi, bois, croix,' in French, creates a 'band shell' shape in the pharynx. As we know, band shells and megaphones project sound fantastically. The happy news is, that the human throat can create and exploit both shapes while breathing, and they can both be maintained by breathing correctly. Deep inhalations into the lower back will open the throat vertically, and create the megaphone shape in the throat by opening the epiglottis and the lower pharynx. Phonating the bright 'ah' vowel in the upper

pharynx at the instant the breath is taken into the body (inhaling the vowel), and pulling the corners of the mouth back in an 'open smile', will unhinge the jaw and create the 'band shell' shape in the back of the neck (the rectangle).

What If?

Singers should study the shape of the mouth used by the greatest vocal artists when they were actually singing. Youtube offers the opportunity to hear and **see** great singers in action. Maria Callas pulled the corners of her mouth back extremely every time she breathed and kept the corners back during singing, regardless of the vowel being sung. Christa Ludwig (1928-) sang through a very closed, horizontal form (almost a 'slit') similar to the closed, lateral shape of the mouth used by Peter Glossup (1928-2008). Both singers kept the corners of the mouth pulled back in an exaggerated manner. Find the silent film of Caruso singing "Vesti la giubba" from "Pagliacci" by Leoncavallo. Watch the shape of his mouth and the placement of the corners of his mouth. The form stays lateral (horizontal) on every note, with the corners of the mouth back, including on the 'oo' vowel. It is not necessary to actually hear his voice in the film. There are plenty of recordings of his voice we can listen to. We know that his sound was the greatest sound of all.

What if Caruso had 'focused' his voice? He said, along with the admonition to avoid the nasal placement, that the "ah" vowel was "far back and low in the throat", and to "attack the tone well back in the throat".

What if he had pulled his jaw downward instead of pulling the corners of his mouth back and smiling the 'open smile'?

What if he had pressed his chin down against his chest, instead of tilting his head up and back while singing?

What if he had pulled his jaw down into an exaggerated vertical position instead of limiting the vertical opening of his jaw to the width of one finger in the middle range and two fingers in the high range?

What if he had used the French 'oo' vowel formation, with the corners of the mouth brought forward into a 'pucker', instead of the 'lateral 'oo' vowel formation, with the corners of his mouth pulled back (the smiling 'oo')?

What if he had kept a 'cup-shape' in the middle of his tongue in order to hold a piece of candy there while singing, or, ever worse, raised the

middle of the tongue into a 'hump'? Did Caruso create a 'ski slope' with the middle of the tongue', or can we see his totally flat tongue, with the front of the tongue in contact with the inside of the entire lower lip from corner to corner, as seen in the photos in Dr. Marafiotti's book and in his silent film?
What if he had lifted the soft palate mechanically up and back while breathing with the belly moving outward, instead of allowing the palate to respond up and forward to a deep breath in his lower back, while pulling the abdomen inward at the same time?
What if he had artificially created vibrato in the voice by wiggling his diaphragm and throat while singing?
What if any of the greatest singers, including Tetrazzini, Mattia Battistini, Adelina Patti, Fernando De Lucia, or Kirsten Flagstad had done any of these physical things? Would any of them, in spite of their fabulous voices, have been great singers?
We know that they did none of these things. What we do know is what he told us. We also know what other great singers have told us in their books and in interviews. Tetrazzini said that the tongue must be down in the back, to prevent it from becoming "a literal stumbling block to the voice". What if Caruso had sung into the nasal cavity, "…against all the rules of song"? Would he have developed his incredible, golden-velvety, greatest sound of any human voice, or would his voice have been thin, ugly, and without amplitude? Ask yourself these questions and apply them to your own sound. **What if, instead of doing what you usually do when you sing, you would apply the ideas and methods recommended by the greatest singers in history?** What are you doing to make your best, most open-throated sound, most beautiful sound? Are you a victim of the corruption of aesthetics that dominates the world of singing today? Or do you seek the freedom of singing that flows from the heart and soul of a true singer as demonstrated by the great singers of the past?

A Generational Thing
Marcella Sembrich insisted that her students shape the mouth and throat "…like an oval lying on its side", and keep it that way at all times by using the "breathing to create and maintain the form." Her validation as an expert was indisputable. She was the star pupil of Giovanni Battista Lamperti and his father, Francesco Lamperti (1811-

1892), and the greatest exponent of the Bel Canto vocal style of her era. She was known as the "Second Patti", and praised as the greatest soprano of her generation. At the young age of twenty-five, she was chosen to sing at the opening of the Metropolitan Opera Company in New York. She advocated the same principles of singing as other great singers of her era. Her teaching passed down to another great soprano, Leontyne Price. Price's teacher, Florence Kimball, was a pupil of Sembrich. Price can be seen keeping the 'oval lying on its side' while singing. She is another singer who had proved that the 'old rules' were the best rules.

Focus

Never in any book or in any quote of a great singer have I have ever read or heard the word "focus." I have never heard this word spoken by a great singer, and I have spoken personally with many of them who sang between 1958 and the present. "Focus" should be used only as an **adjective**, never as a **verb**, **if used at all.** It should never imply any action in the throat of the singer. The first rule of good singing is "No Action in the Throat."

'Focus', used as a verb, or 'focused', used as an adjective, is a subjective opinion at best. Who decides what 'focus' means, when it is correct, how much 'focus' is enough, and how to achieve it? What are its characteristics, and how do they fit in with the approach to voice production as revealed by the greatest singers? How much tension in the throat, the tongue, the jaw, and in the muscles under the jaw, is the correct amount? Dame Eva Turner said that all of the aforementioned parts of human body should be "…invisible." 'Focus', and the search for it, is, for all practical purposes, an imaginary, indefinable concept, and a voice killer at worst. It is wrong from the very beginning because it requires tension and muscular actions in the throat. It is a modern concept, concocted by teachers who never sang professionally, to compensate for the tendency of singers to sing with throat resonance due to faulty breathing.

A More Profitable Search

Great singers all discuss breathing at great length in their books (Caruso, Tetrazzini, Lilli Lehmann, Roswaenge) or in interviews (Ponselle). Caruso mentions it sixty times in his small book! I don't

blame unqualified teachers or ambitious singers who don't know how to breathe for trying to find some color in the vocal emission. Raising the soft palate up and back, making a ridge or cup in the tongue, and any other muscular procedure they attempt may add a bit of artificial color to an undeveloped voice. However, it will only diminish the potential of what the sound can become if the voice is developed around the concepts of correct breathing and total relaxation of the throat. Any action in the throat, including actions in the tongue, the jaw, and the muscles under the jaw, will penalize the voice in loss of beauty, volume, resilience, stamina and range.

However, if the development of a voice is based on 'no action in the throat' and deep breathing, and control of the breath is dependent on the 'breath prop', the resulting emitted tone will automatically follow the correct path to the True Mask, which lies **above** the nasal cavity. The throat will relax and open freely and vertically, as a reaction to the deep inhalation into the lower back. The 'raccolto' ('gathering') of the tone above the nasal cavity will be automatically generated by the pressure of the breath against the lower chest. Those unenlightened teachers and students who convert to the 'old' technical approach to singing, as described in the old books on singing, will immediately notice a vast improvement in the beauty of the voice, volume control and variation, and the total absence of fatigue in the throat after singing.

An Acoustical Principle

John Phillip Souza (1854-1932) said, "The bigger the drum the bigger the sound." This saying applies to the singing voice perfectly. The more we can develop our breathing, the greater the expansion of our 'drum' (the chest capacity), and the bigger and richer the voice will become if we sing in a way that allows the vibrations of the vocal folds to affect the air in the lungs. Caruso said, "The tone should vibrate the air down inside the body."

The compensations for poor breathing as discussed above would not be necessary, as Caruso states in his book. "If singers would learn to breathe correctly, all of the many possible vocal problems will be avoided."

Verbs and Adjectives

The use of the term "focus," as something we must **do** instead of something that **occurs** as a result of correct breathing, is a totally amateurish concept. The term would never have been coined as a corrective procedure to compensate for the mechanical, artificial expansion of the pharyngeal cavity, if breathing had been taught correctly from the beginning of vocal studies.
The students in Corelli's Master Class would not have heard the voices of American singers described as "…singing with the throat closed, and everything in the nose", if the singers had learned to breathe correctly before Corelli heard them sing. Corelli, trying to tell the singers to "…open the throat" used only exaggerated, deep breathing as a solution to the problem. He told nearly every student that sang for the class, that "…Italians hate the voice in the nose!", and "The American throat go squish, squish, squish!" and, "The American singers sound like they are singing through a straw"! In fact, the only singer he liked was Joanna Porackova, who sang effortlessly with a big 'drum' and a fantastic sound. Corelli was thrilled to finally hear a great voice sing beautifully!

Pro and Con
The writings of G. B. Lamperti and Manuel Garcia II (1805-1906) describe the approach to breathing and singing that produced such incredible singers and extraordinary feats of super-human vocalism. The writings of Caruso, Tetrazzini, Lilli Lehmann, Lillian Nordica (1857-1914) and Helge Roswaenge explain their approaches to breathing and singing that produced such prodigious feats of super-human vocalism. Not once, in these writings, was 'focus' mentioned. Instead, there are very clear directions to avoid nasalityand the open nose (the 'mmm' placement of the voice). There are very clear explanations and descriptions concerning the various bio-mechanical procedures that, when combined into a mental/physical, methodical process of breathing, muscular applications, and essential points of relaxation, became a reliable vocal technique.

The Baby Bird
The shape of the mouth, while singing, was considered a crucial element of vocal technique in the writings of the great singers and teachers of the past. Francesco Lamperti, the father, Giovanni Battista

Lamperti, his son, and Manuel Garcia II, insisted that the mouth be opened vertically no wider than the width of one finger in the middle range of the voice, and no wider than two fingers in the upper range of the voice with the corners of the mouth pulled extremely back. Why do singers and teachers today want the jaw pulled down extremely? The greatest teachers and singers in history insisted that the mouth not be opened vertically in a 'baby-bird waiting for a worm' posture while singing?

Questions

We should ask ourselves some questions pertinent to this discussion. When did pulling the jaw downward while singing become the correct position of the mouth? Many singers today look like Edvard Munch's painting, "The Scream". The greatest teachers and singers of the past gave specific recommendations that advised singers to use a horizontal formation of the mouth while singing. The most often mentioned shape was the 'open smile' with the corners of the mouth pulled back.

A vertical opening of the jaw, while singing, which ignores the advice of Lamperti, Manuel Garcia II, Caruso, Tetrazzini, and a long list of the greatest singers in history. The vertical position of the jaw is only practical as a compensation method to help relieve tension in the muscles under the jaw and in the throat. Contracted muscles under the jaw and behind the chin exert an upward pulling force on the larynx. It would be better to learn to breathe correctly, in order to neutralize any possible muscle contractions in any area of the throat. The entire vocal 'apparatus', and its many elements above the middle of the chest (the throat, jaw, tongue, neck, and head) should be 'invisible' (Dame Eva Turner), without the slightest twinge of tension. The state of 'invisibility' of the throat, a psychological state of mind and body that eliminates tension in the voice, can only be achieved by deep breathing into the lower back and its 'cooperative control method', the application of the 'appoggio'.

When did focusing the voice in the nose by singing "ying, yang, yong, ming, mang, mong, or gaydee, godee, goodee, giddy, gahdee and other similar exercises based on the search for nasal resonance, become the "correct" way to sing? Caruso says emphatically in his book to "…never sing into the nasal cavity. It is against all the rules of song."

When did nasal resonance and 'focus' become the sound that defines the aesthetic of today? Great singers and teachers of the past told us to avoid such sounds and placements!

When did swelling the belly outward while inhaling become the correct way to breathe? We know that Dr. Louis Mandl (1812-1881), a famous Physiologist in Paris (but not a singer!), recommended in 1876, that singers should breathe "…like a sleeping baby". He believed that the abdomen should push outward while inhaling and collapse inward while singing. However, the greatest singers in the history of singing tell us to draw the abdomen inward while breathing and to relax it outward while singing, which is the way a crying or laughing baby uses the abdomen. After all, we are not asleep when we sing! G. B. Lamperti put a diagram into his book, "The Techniques of Bel Canto" (1905), clearly defining and depicting the correct breathing method of **pulling the abdomen inward while inhaling** and **letting it fall out and down while singing**.

A similar use of the abdomen, called the 'heng-haah' is taught to advanced students of 'Tai Chi'. While sustaining the word 'heng', the abdomen is slowly pulled inward. While sustaining the word 'haah', the abdomen is slowly dropped outward and downward. This exercise is truly ancient. Its origin cannot be established. It is assumed by Martial Arts historians, that it was developed in China by the Shaolin monks, and was derived from Buddhist meditation practices. In any case, it is hundreds of years old.

A Paradox

Why do teachers today teach the opposite of what the great singers and teachers recommended? Do they accept the advice of a Scientist who never sang, and reject the advice of the greatest singers? It would seem to be so. Do they recommend that singers breathe the way a silent baby breathes? It would seem to be so.

Martial artists strive constantly to develop their energy and power. One of the main sources of 'chi', the mysterious bio-electrical energy that is the energy of life itself (called 'ki' in Japanese and Korean), comes from the center of the abdomen. One way to develop 'chi' is to practice flexing the abdominal wall inward and outward. The 'heng-hah'

exercise, or its equivalent with different names in different cultures, is still common today in Martial Arts of all types of fighting styles. The sudden yell at the moment of impact when breaking boards and concrete, originates from a pressure against the lower abdomen. However, singing is not yelling. Although 'chi' should be used in singing, it should never explode from the abdomen and against the vocal folds all at once, as in yelling, but should be sustained gradually from the lower abdomen and the ribs in the lower back against the chest, in order to gently and evenly produce the singing voice.

Picking Brains

During the past 50 years I have been fortunate to be around great singers, either as a fan, a student, as a colleague, and in some cases, as a teacher or advisor. It was my own insatiable curiosity that drove me to ask questions, to 'pick brains', to inquire of those who could stand and deliver great singing in the most difficult operatic roles, and do it for years, what they thought about technically while singing. Every singer with whom I spoke, who was actively enjoying a great, long career, or had had a long, successful career in past years and was retired (Giovanni Martinelli, Lauritz Melchoir, Dame Eva Turner, Mack Harrell (1909-1960), Jenny Tourel, Richard Tucker, Lucine Amara, Jan Peerce (1904-1984), Jussi Bjoerling, Birgit Nilsson, Helge Roswaenge, Elizabeth Schwarzkopf, Gottlieb Frick (1906-1994), Maureen Forrester(1930-2010), Frederick Dahlberg (1907-1988), Joan Sutherland, Mario del Monaco, Jerome Hines (1921-2003), Hilde Konetzni (1905-1980), George London, and dozens of others), mentioned breathing as the **first consideration when discussing singing and vocal technique. The inhalation was always described as placed into the lower back, and the support point of the breath while singing was always described as being against the chest.**

Visual Clues and 'Invisibility'

There were two inhaling 'methods' that consistently came up among the greatest vocalists as the way to prepare the basis of the 'Appoggio'. Some of the great singers could be seen pulling their abdomens in while inhaling. Some of them would hold the abdomen perfectly still while inhaling. The 'stillest' ones gave the impression that they did nothing while singing. The voice would appear from inside their

bodies as if by magic. **Not one of them advised swelling the belly outward while inhaling.**
In nearly every case, the chest was kept as still as possible while inhaling or exhaling. If the chest did rise slightly during the inhalation, it was held as still as possible while singing.

A Perfectly Still Tenor and A Perfectly Still Colleague
Carlo Bergonzi (1924-) was a wonderful vocal technician who used the 'stillness' breathing method for many years. He did not 'place' his inhalation, but allowed it to react to the stillness of his chest and abdomen. If the chest was not allowed to move, and the abdomen was not allowed to move, the breath had to be taken in and sent out in a way that would not disturb his 'stillness'. In this approach, the breath is taken into the lower back reactively, because it is not permitted to go anywhere else! As it developed, his respiration became strong enough for him to switch from baritone to tenor. I heard many of his performances at the old Met. He sang beautifully, and was especially admired for his smooth legato singing. He sang the most difficult roles in the Italian repertoire, and was particularly good at singing roles in the operas by Verdi. My favorite role I heard him sing was "Riccardo" in Verdi's **Un Ballo in Maschera**. During the actual act of singing, his chest and abdomen never moved. Trying to see how he breathed was almost as difficult as trying to analyze Zinka Milanov's breathing technique. Her chest was totally still while breathing and singing, making it appear as if the voice just 'happened' without any effort at all. When I asked Bergonzi how he breathed when he sang, he answered, "…Non muovere niente!" (Don't move anything!).
I realized later, just as I had finally discovered by observing Zinka Milanov, the only movement to be seen when either of those wonderful singers sang, was in their lower backs. Their lower ribs in the back would open when they inhaled and close when they sang. It made perfect sense, with all of the 'stillness' in the front of their bodies that the ribs had to move. They had no choice!

The Perfect Attack
The famous silent film of Caruso singing "Vesti la giubba" from Leoncavallo's PAGLIACCI is a perfect example of 'invisible' singing. I have watched that film many times. The only view we have is from the

front, and it is clear that there is no visible movement in his chest or belly. Unfortunately, we do not have a view from the rear, and it is impossible to see any movements that would offer a clue as to how he sang. Thank Goodness we have his book, and his own words, to describe the approach to singing he used. W.A. Henderson (1855-1937), music critic for "The New York Sun" during the 'Golden Age' at the old Met, thought that Caruso had the only perfect attack he ever heard. Even Patti's attack was not as good as Caruso's, in Henderson's opinion. It is hard for us to imagine what that must have been like.

Subtle Movements

There were many wonderful singers at the Met during my student years in New York, from 1959 to 1964. If I had to pick one of them as the best singer I ever heard, I would have to agree with three of the very best, Jerome Hines, Robert Merrill (1917-2004), and Lucine Amara, that Zinka Milanov was the absolute best singer of the modern era. Trying to identify the breathing and support method of most singers, even some of the best ones, was not a problem. You could see what they were doing most of the time, by watching their chests and bellies. Jussi Bjoerling was a great vocalist, considered at the time to be the best tenor in the world because of the incredible sweetness of his voice. However, the way he held his hands against his upper chest while singing, right above the sternum, was a dead give-away as to where his 'lean' was based. Films of him singing live are available on Youtube, as are the films of many of the great singers. Another singer who exemplified near perfect technical singing was Richard Tucker. His voice, in the words of Jerome Hines, who preferred Tucker to all other tenors, was pure bronze, dark and metallic, with amazing power and stamina. He was the 'singer's singer', and especially 'tenor's tenor'. His breathing and support methods were subtle, but still obvious to the careful observer. He liked to put his hand against his sternum for every big high note, and hold it there for the length of the note. At the cut-off, he would throw his hand to the side of his body with great vigor! Later, in 1962, I had lessons with him for several months before I started my contract in Europe. I had been right in my 'analysis' of his vocal method! He described, and tried get me to be able to do, what his approach to singing was. It was what he called 'the standard method' of singing. That description was a little difficult for my mind

to understand! He certainly was vastly superior to almost every singer I ever heard live.
Mr. Tucker's approach to singing was to pull not allow his abdomen or his chest to move at all when he breathed. When he began to sing, he would press the breath against his chest and hold it there. It really was that simple in his mind. Of course, I was not able to do it at all in the beginning. He was very patient and demonstrated a lot. Hearing that fabulous voice coming out of his body was all the inspiration I needed to become a total believer in his way of singing! Thank Goodness the approach was not very different from the one I had learned from Olga Ryss, especially the concerns with stillness of the chest. I was able to sing the way he wanted under his supervision, and the inspiration I felt just to have been in his presence spurred me on to work as hard as I could when I was away from him. Mr. Tucker had proven to the world that singing could be learned and practiced in a fantastic way, and I wanted to be like him and sing as well as my talent would allow.

"…Downstairs and Without Noise"
Meanwhile, back to the problem of analyzing Milanov's perfect breathing method. To make a long story as simple as possible, I was finally able to detect, observing her from the back of the stage and in her coachings with Victor Trucco, which I was allowed to attend as his 'page turner' if I was absolutely silent and perfectly still, how she expanded her lower ribs in her back when she inhaled! What a fantastic discovery for a young singer! Zinka Milanov was human after all. She had to breathe, too, just like every other singer. The thing that was unique about her breathing method was that she hid it from view better than anyone I have ever seen (or heard) since. The movement of her lower ribs was never sudden or violent, but always smooth and seemed almost gentle. If I had not discovered her secret, I may have believed her many admirers, who swore she never breathed at all! The only visual evidence of breathing was the opening and closing of her ribs in her lower back, and the movement had to be seen from behind. A clear view of her lower ribs was essential. Getting a proper location for viewing her from the rear was not as easy as it may sound. There were some sneaky things required in order to manage the proper view, but I won't go into that! The front of her body was deathly still

when she sang. I was reminded of Olga Ryss' instructions to "…stand still like a statue " and "… be as still as a dead corpse!"

Translator Needed

It was hopeless to ask Milanov about vocal technique. I tried several times (never in or around Trucco's studio!) during a rehearsal or after a performance, but there was never enough time to try to translate her concepts into something I could understand and use. When I asked her how she breathed, she said "Downstairs and without noise." This remark may have been the explanation of her approach to singing, or it may have been a 'dig' directed at Renata Tebaldi (1922-2004) who often was heard vocalizing upstairs in one of the empty rooms!

There was much discussion at that time among students and fans about Tebaldi's audible 'mini-gasps' between phrases. The sounds she made between her sung tones were loud enough to be heard by the audience. Of course, no one was bothered by them, except maybe Zinka. She loved to expound on the "…proper way other sopranos should sing", and had said publicly that Tebaldi, Nilsson, Callas, and Leonie Rysanek (1926-1998) should come to her and ask about correct singing! The terminology she used when discussing singing was totally confusing. My favorite expression she used was, "Put the breath on the voice and sing without noise, and only pianissimo." Milanov had what was probably the most beautiful high pianissimo in history of singing. However, it is often forgotten when discussing her voice that she could also produce some of the most powerful and beautiful tones ever heard at the Metropolitan Opera! They were prodigious and often overwhelmed the sound of the full orchestra, the full chorus, and the other soloists, except maybe Mario del Monaco!

The Powers of Observation

I had, by my third year in New York, developed my own style of physical analysis of technical singing, which was based on observation and physical, aural, and, when available, intellectual confirmation. The information upon which I based my 'system' of analysis has been gathered from every source available to me, and especially from the very best singers who sang in New York from 1959 to 1964 and in Europe from 1963 to 1972. My curiousity continued when I returned

to the U.S. and I again had access to the greatest singers in the world. The following points and questions were already a part of my method for acquiring technical knowledge about great singing, and I did my best to apply them to my search for understanding the vocal process.

Moveable Parts

First, observe the posture of great singers. It is possible to actually see some of the greatest singers performing live on Youtube. Do they stand up perfectly straight with the weight on the front leg, or do they lean the body in one direction or another? Aspiring singers should observe the physical movements of the bodies of great singers while they are singing, and especially when they breathe. The main areas to be observed are the abdomen, the chest, the back, the mouth, the throat, the jaw, and the angle of the head. Milanov was as still as a statue in the chest and the belly. Of course, her belly was held in by a corset! She could not have used the 'sleeping baby 'method of breathing (pushing the belly outward while inhaling) if she had tried! Lauritz Melchior wore a corset that covered his body from his mid-thighs to his armpits! He couldn't push his belly out to breathe, either! It was obvious that both singers did not, could not, breathe into their bellies. They had no choice. And, since there was no movement in their chests, they had to be back-breathers! This was confirmed in 1962 when I had lessons with Melchior. In one session with him, which resembled an interview, he described his breathing and support method to be the 'crying/laughing baby' method described by Caruso in his book and Pavarotti years later at Juilliard in a Master Class.

Always Save a Leg

After I applied my 'system of analysis' to the singing of Zinka Milnov, who was only one of the many great singers I have studied during my fifty years of involvement in the Vocal Arts, I was left with the following observations and notes. The dates were spread out over the Met season of 1962-1963:

The Milanov **posture** while singing was definitely 'old school', with her weight on one front foot or the other at all times and the chest thrown outward and forward with the elbows pulled back. I want to mention here that I was admonished, by every great singer for whom I

auditioned, to never stand on two feet while singing. "Always save a leg!'', advised Mario Del Monaco. "You may need it later!" Melchior said, "The balance and coordination needed for great singing is crucial in the very long roles. Never stand on both feet. It spreads your balance and is much more tiring. Standing on one foot makes you balance and saves your energy for singing. You can shift back and forth, but never stand on two feet at the same time if it is avoidable."
I never saw Milanov stand on both feet while singing. The perfect stillness of her chest seemed to be an extension of her balance. The whole body was leaned slightly forward, but not as extremely as Dame Joan Sutherland or Luciano Pavarottol or Jan Kiepura. She would change back and forth from one foot to the other in order to change direction, or, perhaps, to rest one leg while the other worked. The shoulders were kept back, dropped down, and relaxed.

The **belly** and chest did not move when she breathed. What space in her body was left for breath? It was certain that she had to have breath to be able to sing. I realized that I would have to observe her back to see any action when she breathed.

The **chest** did not move. It was held high and formed the 'sternal arch' that is still a common concept in Eastern Europe today. Her visible chest function defined Olga Ryss' idea that a singer should stand so still that the chest resembled that of a statue or 'a dead corpse'! Helge Roswaenge described the chest as being "…like a shield made of iron. It should be maintained in as arched position, solid "…like the Rock of Gibraltar, filled with breath from the bottom of the lungs to the top of the lungs. The chest must be impenetrable, immovable, and unshakable by any outside influence. The 'King of Dancers Posture' in Yoga creates the perfect shape of he chest for singing."

The **lower back** was Zinka's secret weapon. It filled with air when she inhaled, with the lower ribs expanding. The lower ribs would close together when she sang, exactly like Caruso's description of the 'bellows' in the lower back. Her pelvis was 'turned under', in the old-fashioned posture of **'the elongation of the lower spine'**.

The **mouth** was not kept in the typical Italian 'stai' shape, or in the shape of an 'oval lying on its side'. She was not an Italian by nationality, and her 'accent' was not as exemplary as it could have been. She definitely pulled the corners of her mouth back when she sang high notes, but did not use the 'open smile' at all times in her middle voice. Observe, on Youtube, her high b-flat at the end of 'Vissi d'arte' from Puccini's TOSCA. She pulled the corners of her mouth back extremely for every high note, regardless of the volume level she chose at the moment. I heard her "Tosca" many times. That note, "Signooooooor", was gigantic in its fullness and ringing power. Although Milanov was nearly a perfect singer, the looseness of her jaw affected the way she sang the Italian language, and marked her as a trainee of the eastern European School of singing.

The **throat** was breathed downward so extremely that her larynx almost disappeared from view. Its movement downward, when she inhaled, was the only visible movement in the front of her body. There was not a hint of visible tension or strain in her throat…no visible tendons or blood vessels, no quivering or shaking. I was reminded of Dame Eva Turner's description of 'the invisible throat'. Milanov was living proof that such a criterion could be fulfilled.

The **jaw** opening seemed to generally follow the rule of 'one finger wide in the middle range, two fingers wide in the upper range'. Although she did not always use the 'stai' form in her middle range when she had a lot of text to sing, her jaw was never pulled down into the 'baby bird ready for a worm' opening that is so common today among singers of every category.
Another technical 'plus' in her singing was that she did not 'chew' consonants by moving her chin up and down to enunciate dental consonants. Ideally, the teeth should not come together to enunciate 'dental' consonants (d, l, n, s, t, z). She used the tip of her tongue to pronounce those consonants, without moving the chin up and down while singing. This particular approach to articulation was very 'old school'. The modern Italian singers sometimes 'chew' their consonants, although it is not as efficient as leaving the jaw 'invisible'. Flexing he jaw to enunciate consonants used to be considered a flaw in a singer's technique.

The **neck** was loose and free, and provided a relaxed support column for the position of her head, which was always tilted back and up, facing the balconies. There was no visible tension in her neck. Her head seemed to be balanced of top of her spine like a ball balanced on top of a pole. Because of the lack of tension in her neck, she could move her head in any direction while singing, including all the way back, without the tone being affected. "Desdemona's" death scene in Verdi's OTELLO was staged at the Met in the 1960's with the soprano hanging her head back and down off the side of the bed while lying on her back. She was the only soprano I ever heard who sang "Desdemona's" last, pitiful notes with such freedom of the throat and such floating beauty.

An Inspired List

I had noticed for a long time, that the greater the singer, the less movement there was to observe in the chest. Another member of the 'invisible gang' was Richard Tucker. He was one of the stillest singers I have ever seen, especially in the lyric sections of his most dramatic roles. Only his back could be seen moving, opening and closing, with the chest perfectly still. Gestures as part of acting were freely made, but never allowed to disturb the perfect stillness of his chest. No exaggerated actions were obvious when he pronounced words.

I have found the above described 'list' to be very useful in teaching actors, also. Olympia Dukakis (1931-) said that one of the old rules of the theater is to 'Never show the work!' Being dead-still, with the chest in a high, open posture while singing or speaking, not only helps control the vocal requirements of a difficult role, it negates superfluous movement, and contributes to the success of the interpretation of a role. Singers need to practice 'never showing the work' if they want to become good actors.

Two Methods of Abdominal Control While Inhaling

Pulling the abdomen in while inhaling, or holding the abdominal wall perfectly still while inhaling.

These two applications of abdominal control achieve the same, all-important thing: if the posture of the chest is established and the

'sternal arch' is firm, the back is left as the only part of the body ready to expand when inhaling. Pulling in the abdomen during inhalation will cause an even more extreme expansion of the lower ribs in the back than just holding the abdomen still when inhaling.
If the breath cannot go into the belly, because expanding the belly outward while inhaling is not permitted, and the chest is already raised in the form of the 'sternal arch', **it must go into the back**. The lower the breath is inhaled into the back, and the greater the expansion of the lower ribs, the deeper and richer the sound of the voice will be.
Caruso and Lilli Lehmann very clearly describe the function of the abdomen in their approaches to breathing and support in their books. Caruso said to "…draw the abdomen in while inhaling", and Lehmann said to "…jerk the abdomen in an instant before inhaling". Lehmann taught Geraldine Ferrar and Olive Fremstad her method and both sopranos had fabulous, long careers. There is a long list of great singers who used the 'pulling in the abdomen while inhaling' method. Some singers, like Amelita Galli-Curci, apparently pulled the abdomen in when she inhaled and kept it there ("…glued it to the spine"). Lauritz Melchior and Helge Rowaenge simply did what Caruso recommended in his book.
Other great singers held the abdomen still while inhaling and singing. The idea was to not allow it or the chest to move at all. Richard Tucker, George London, Lucine Amara, Joan Sutherland, and Luciano Pavarotti used this method.
One thing is common to these approaches to body and breath control. Not one of the fabulous singers mentioned above pushed the belly outward to inhale or pulled the belly inward while singing. The 'sleeping baby' function of the breath does not exist as a breathing and support method among great singers. They all use the 'laughing/crying baby' function of breathing and support. This is a critical difference in the success or failure of singers as they attempt to make professional careers.

Two Methods of Abdominal Control While Singing
Letting the abdomen relax and fall outward and downward while singing, or holding the abdomen perfectly still while singing.

What did the greatest singers do with their abdomens when they began to sing? If it is established that the abdomen is drawn inward while inhaling, what happens when the voice begins to make its music? According to Caruso, the answer is to do "…a contrary motion". If the abdomen has been drawn inward while inhaling, the 'contrary' action would be to relax it outward. 'Leaning' (appoggio), or 'dropping the belly out' while singing, is a very common technical recommendation that has come down to us from many great singers of the past. The Italians call it 'leaning the breath' (appoggio). Pavarotti called it "…like a baby. Push, push, push!" (He demonstrated the pressure of the breath against his lower chest.) Once the abdomen is released outward at the beginning of a sung phrase, the pressure of breath against the chest naturally follows.

Another successful way to use the abdominal wall while singing, is to hold it perfectly still. Holding it still causes the breath for singing, if the chest is held up and still, to come only from the back.

There are advantages to Caruso's method: pulling the abdomen in while inhaling, as opposed to just holding it still, forces the most extreme opening of the ribs in the lower back. Relaxing the abdomen outward while singing, while maintaining the pressure of the breath against the chest, causes the most extreme closing (squeezing) of the ribs in the back. Caruso called the function of the ribs in the back "…the bellows".

Creating the 'Bigger Drum'

The "massive respiration required for great singing", as described by Caruso, is an aspect of vocal technique that often stirs curiosity among young singers. The question often arises: "Why worry about extreme inhalation and an ever increasing volume of air in the lungs, if only a small amount is needed to sing a phrase?" The answer is, 'The bigger the drum, the bigger the sound.' A 'congo drum' makes a much bigger, rounder sound than a 'snare drum', even if played very softly. The difference lies in the size of the 'air-bucket'. People often comment on the large physical size of singers with huge voices. Often, the two seem to go together. It should be enough for us to realize that the greatest singers in history recommended inhaling as much air as

possible at all times. Monserrat Caballe said, "You should be able to inhale for, at least, eighty seconds, before you have a voice lesson." When asked what a singer should do who does not have such extreme breath capacity, she answered, ""Find another line of work!" There must have been a reason why the greatest singers recommended such extreme development of the breath capacity and strength. It is up to us to figure out why, because we know their approach was the best discovered in the history of singing.

Reiteration of the Process

The steady, controlled closing of the floating ribs in the lower back (the closing of the 'bellows'), was tested and practiced for several generations of great singing, and has proven itself to be the most efficient method for providing a steady stream of breath to the larynx. The "placement" of the inhalation, recommended by Caruso, Tetrazzini, Lilli Lehmann and many other great singers, is located in the lower ribs in the back. The inhalation is directed to that spot by drawing the abdomen in and creating a 'massive respiration' into the lower back. By sending the breath against the chest and 'leaning' or "pressing" it there, the 'appoggio' is established. The 'breath stop' (the 'breath prop', the 'lean' of the breath, the 'pressure of the breath against the chest) is crucial if all tensions in the throat are to be avoided.

Actions and Reactions

The reactions to inhaling correctly into the lower back are as follows:
The larynx, and all muscles in and surrounding the throat, are drawn downward during the inhalation into a state of **relaxation.** The larynx should never be lowered unless the inhalation lowers it. It must remain relaxed and free. How low the larynx should be in the throat depends on the breath development of the individual. The only criterion is based on the total lack of tension in the throat. The singer should breathe deeply into the lower back, and, as Olga Ryss would have said, "…Accept the leftovers."

The position of the larynx at the end of the inhalation is the position that is unique to each singer. It is totally dependant on the 'drawing in strength' of the individual. With time and practice, the 'sucking in' power of the inhalation will develop, and the position of the larynx will

respond and sit even lower. It is a mistake to demand of young singers that the larynx have a 'predetermined location in the throat.' A position that is lower than the inhalation provides can only be achieved by using muscular action in the throat. The first rule of good singing is 'NO ACTION IN THE THROAT. Reaction to deep breathing is the only activity allowed.

The epiglottis opens completely. Some singers considered this reaction to be the most important characteristic of an 'open throat'
The lower ribs in the back (the 'floating' ribs) open "like a bellows" (Caruso)
A split second before singing, the breath is 'leaned' (pressed) against the lower chest without closing the glottis. Caruso said to "never sing while still inhaling." The breath must be 'leaned' (pressed) against the chest to prevent the escape of the accumulated air in the lungs from leaking upward into the throat. This procedure, the 'appoggio', insures that the throat will remain open for the attack, and will remain open while sustaining the sung tone. Tetrazzini said, "…to keep the pressure against the sternum at all times." Lilli Lehmann said to "…keep the pressure of the breath against the chest at all times."

Breathiness
The edges of the vocal folds are drawn together at the instant the breath is sent to the larynx, and not before, thereby avoiding the 'glottal stroke'. The tiniest movement of breath through the vocal folds will create an area of 'lighter pressure' along the edges of the vocal folds, and draw them together. This is the correct function of the voice.
However, some singers send too much air through the vocal folds, especially for the attack. Breathy attacks, and/or allowing air to leak through the vocal folds while singing, can lead to vocal nodules and 'bowed' (curved) vocal folds. Sending an overabundance of breath against the larynx under pressure can damage nerves and rupture blood vessels in the throat.

The Candle Flame
A great exercise for correcting a breathy emission of the voice is the 'candle flame exercise'. It is best utilized by having the singers vocalize with a candle flame held in front of the mouth. A tissue held

vertically close to the lips while singing will also provide the information he singer needs if he/she prefers it to an open flame. If the flame or the tissue moves while the singer is singing or enunciating consonants, it indicates clearly that the excess, unutilized breath is passing through the vocal folds. The resulting tone qualifies as 'breathy', even if the breathiness is not severe enough to be audible. The candle flame and the tissue do not lie, and they cannot be deceived! If there is a leak, the flame will detect it. The leak will cease if the singer is diligent and practices enough. It requires only, that the psychomotor system clearly receive the message that the breathiness is not wanted, and must cease. The magic of the mind/body connection will gradually eliminate it, and the dangers of damage to the vocal folds will disappear. The 'candle-flame exercise' is one of the oldest vocal exercises on record. It is still marvelously beneficial, especially when the singer is learning new repertoire.

The Path of the Voice

The 'open throat', often a term that is completely misunderstood by singers, if executed correctly, is without tension or muscular activity. It is created by inhaling deeply into the lower back. Caruso said to "…maintain the open throat through the power of the inhalation." The 'sucking inward' strength of the ribs in the lower back opens the passageway to the "rear quadrant of the lungs" (Tetrazzini). Maintaining the open throat by applying he 'appoggio' allows the sound to travel up the open, relaxed airway from the larynx, through the open epiglottis, through the lower pharynx, through the upper pharynx, up the back wall of the throat, **over** the soft palate, **over** the hard palate, and into the **True Mask**.

Phonation and the Open Throat

(Caruso, Ponselle, Corelli, Marcella Sembrich, Maureen Forrester, Dame Joan Sutherland, Mario Del Monaco, Birgit Nilsson, Lauritz Melchior, Gottlieb Frick, Paul Schoeffler, and many other great singers, said they felt that the vowels were pronounced in the back of the neck! Caruso advised singers "…to attack the tone well back", and "…the 'ah' vowel is very far back and low in the throat".) Manuel Garcia said, "The true mouth of a singer is the pharynx." Lamperti said, "…The

open throat in the Italian School is the same shape as the bright 'ah' in the Italian word 'stai'. Caruso said, "…The open throat is maintained by the power of the respiration." Maybe they were all feeling the passage of the voice as it followed its path from the larynx to the upper front part of the skull. If so, their breathing and phonation methods must have been very similar!

Mom and Bob

Inhaling silently through the nose, and 'placing' the breath into the lower back, will cause the soft palate to rise **upward and forward as an opposite and equal reaction to the inhalation.** The result of inhaling with exaggerated 'power' (Caruso called it the "…power of the respiration."), is that the throat will completely **relax, the larynx will drawn downward, the back of the tongue will be drawn downward, and the epiglottis will open to its maximum possibility.**

Drawing the abdomen inward and inhaling at the same time, intensifies the activity of the expansion of the ribs in the lower back. Thus, the inhalation, in one coordinated process, will open the passage from the larynx to the 'True Mask" in its entirety.

The nose is automatically closed by the soft palate as it rises up and forward (like the 'pre-sneeze' function, or the 'Bob' function). Separate muscular commands and actions are not necessary, if the breathing function is correct.

If the soft palate rises upward and forward as a reaction to inhaling into the lower back, the air trapped in the resulting sealed-off nasopharyngeal chamber above the nasal cavity will vibrate as soon as the sound begins. Singers, whose orientation to resonance is to sing 'forward' into the upper face, call this placement of the resonance of the voice, "…singing in the Mask". Identifying the 'Mask' is important if the singers sing 'forward'. It is possible to sing forward with the resonance arriving too low in the face. This is usually the result of nasal singing, or attempting to 'focus' the tone. The surest test for identifying the correct position in the face for the resonance is to simply pinch the nose closed. If the tone is affected, the resonance is sitting too low.

Exploitation of the Impossible

Lilli Lehmann said she "…**moved the back wall of the nose forward when she sang.**" This sensation can be experienced by trying to sustain the consonants 'b' or 'd'. Of course, sustaining either of these two consonants is impossible. The consonants 'b' and 'd' require that the nose be sealed shut. Singing "bobbb", in the middle of a sustained 'momm", will cause the nose to close instantly as the "…back wall of the nose moves forward". The air will stop passing through the nose, because the movement of the palate up and forward will seal off the nose and the nasopharynx completely. In order to sustain sound, it will be necessary to immediately sing a vowel or a nasal consonant. One can allow the nose to open and sustain an 'm' or an 'n'. But, as Caruso said, "…One can breathe through the nose, but never sing through it."
According to her book, Lilli Lehman sang with the nose closed, by sustaining the position of the soft palate up and forward.
Leonard Warren used the 'pre-sneeze' command to seal off his nose and 'lift' the resonance up into the 'True Mask'.
George London breathed exaggeratedly through his nose and into his lower back. He called it "…opening the Mask."
Another way to achieve the 'Mask' is to simply vocalize with the nose closed, by pinching the nostrils together where they join with the upper lip and pulling forward and down. They both used the thumb and first finger in a sustained 'clasping' motion. Franco Corelli and Elizabeth Schwarzkopf used this method.

The True Mask resonance lies above the nose, and must become the target for every aspiring vocalist. Sealing the nose closed is the only way to maintain the resonanceof the voice in the True Mask. However, closing the nose as an action that is separate from breathing into the lower back, necessitates a constant control of the 'pre-sneeze' function of the soft palate. The possibility exists, that if the nose is sealed by separate command, instead of using a posture of the breath in the lower back, the nose can open at any time while singing. All it takes is an instant of forgetfulness. The 'pre-sneeze' function must be strictly maintained if it is used. Some singers maintain the feeling that they have a severe head cold, and the nose is 'stopped up'.
The best way to achieve the sustained function of the up and forward soft palate is to breathe into the lower back. Low back breathing causes the back wall of the nose to move upward and forward as a

reactive process, creating a sealed nasopharyngeal space filled with air. The vibrating air inside the sealed nasopharyngeal chamber is set into vibration by the sound waves arriving from the larynx by way of the passage over the soft and hard palates. The resulting sensations of resonance and vibration combine to create an identifiable area in the upper face commonly known as the 'True Mask'.

Big and Beautiful

The amount of air in the lungs decides the richness and amplitude of the voice. 'The largest drum makes the biggest sound'. This is true of the 'breath box' created by lungs full of air. Larger people seem to have larger lungs and more capacity for air. We generally associate large voices with large people.

When Pavarotti appeared on "the tonight show" with Johnny Carson, Carson asked him what it was like to be such a large person.

Carson: "Opera singers seem to be larger people than non-singers. For instance, I'm a small man and could never have a big voice. You are a large man and have a great voice. How do you feel about being so big?"

Pavarotti answered with a sweet smile: "I don't know about the outside, but, on the inside, I feel very beautiful."

Vibrating Cavities

Tone is created when the air in a pair of large lungs is activated by the vibrations of the vocal folds,. Most singers today believe that the head or the sinus cavities produce all of the sound of the voice. The sinus cavities, which are hollow, supposedly begin to vibrate, causing the sound to increase in volume. A Japanese scientist has debunked this entire theory by using human and animal skulls to see how much sound he could cause by vibrating the air in their sinus cavities. So far, his experiments have proven that the sinus cavities in the cheeks have nothing to do with the sound of the human voice! If you ever have access to a skull in a lab, tap on a cheekbone with a pencil or some hard object. You will find that there is very little sound. Tapping on the sinus cavities will produce almost no sound. On the other hand, tap the skull on top and on the forehead. The sound is suddenly must

fuller and louder. Playing a drum will reveal that the volume of the sound is directly related to the volume of air set into vibration. A snare drum is a skin stretched over a frame. It is open underneath and, when struck, makes the famous 'rata-tat-tat' sound. Take the same skin (head) and stretch it over the head of a large Congo drum and strike it. The sound is not only louder, it is deeper and 'richer', with many more overtones, and will carry great distances. If a tribe wants to communicate through the jungle, they play large, closed (contained) drums, not small, open drums. A marching band often has many snare drums, but only one bass drum. The air in the larger drum disturbs the air more, and is, therefore, more efficient acoustically.

The air in the lungs of the singer works the same way: The larger the air box, the greater the sound. Therefore, any air not needed to vibrate the vocal folds is held in reserve, like a drum full of air. The air is set into vibration when the vocal folds begin to vibrate if the throat is vertically open and the air in the lungs is accessible. Caruso said to "…feel the tone vibrating down into the body", and Rosa Ponselle said to "…sing deeper and deeper and deeper into the body." Developing a large breath capacity in the body will literally make the voice more beautiful and more powerful. Pushing more air through the vocal cords to try to increase volume will only damage the voice and should be avoided at all times! Everyone knows that yelling at a football game will make the voice hoarse. Remember, a large drum can be played very softly, and it is still makes a large sound at a less voluminous level. Striking it with more energy will increase it volume only to a certain extent. Too much force can split the head and ruin the drum. Yelling and screaming will eventually ruin the most beautiful voice. If the singer wants the voice to have sustaining power, ease of delivery, fullness, color, and adequate volume relative to the repertoire to be sung, the breath capacity must be in ample supply. A few singers have plenty of breath capacity for some reason. The rest of the singers must develop their capacity (their 'drum') to make the voice competitive in large theaters.

The correct use of the breath provides a 'support system' for the vocal folds themselves.

Striking the Edges

Pressing air against the glottis before the attack will cause the infamous 'glottal stroke' when the tone is sung. Closing the vocal folds, holding

them closed while the breath is pressed up against the glottis (which is usually caused by **pulling the abdomen inward while singing**), and, then, suddenly allowing the cords to open enough to begin vibrating, is one way (a very bad way!) to produce an 'imitation' singing voice. The sustaining method for the sung phrase would be a continuation of the pressure of the breath against the vocal folds. This method is a kind of sustained glottal stroke! The voice is on its way to being ruined.

There are several reasons why this is the wrong way to sing.
It will cause the resonance to enter into the nasal cavity and make the voice small and locked into one color of expression.
It will cause damage to the edges of the vocal folds over time and lead to the formation of nodules.
Using this method in dramatic music can cause the vocal folds to distort into the almost incurable 'bowed vocal cord' syndrome.
It can cause swelling and bursting of the capillaries in the vocal folds. Burst blood vessels in the vocal folds are almost always a sign that the afflicted singer is using a 'glottal stroke method'.
The last and most disastrous damage, a direct result of pressing the breath against the glottal closure, is done to nerves or muscles that control the function of the vocal folds. Nerve damage to a vocal fold is usually irreparable.

The 'Lean' Against the Glottis
However, we are concerned with more than just survival, although it rightly belongs at the top of our vocal list. We are, also, concerned with the **quality** of the sound we produce with our voices. Simply pinching the nose closed while singing will inform the singer if the tone is nasal or involves the function of the 'glottal stroke'.
Most people think the glottal stroke has to do with the attack only. This is not true. Once the pressure of the breath against the vocal cords has been established, in order to sustain tones and phrases, the same function of the breath that caused the glottal stroke will continue and maintain itself as a 'breath support' method. This is one reason the pulling in of the abdomen during the emission of the voice is so dangerous. Pressing the air upward, by pulling the abdomen inward while singing, supplies the 'glottal stroke' method of support with a

constant feed of breath. The artificial, nasal 'legato' is really a steady stream of air being pressed against the vocal folds themselves.
Some singers, with very light voices, who sing very light music, can survive this method for a period of time. It will eventually cause trouble if continued, even in the lightest voices. Dramatic singers, if they use the glottal stroke as an attack or sustaining style ('leaning' the breath against the glottis), because of the intensity of the declamation in the roles they sing, can 'pop a nerve', develop nodules, deform the vocal folds into the problematic shape of a 'bow', or burst capillaries in the folds themselves. Some singers take cortisone tablets when they are on tour in order to reduce the constant irritation of the edges of the vocal folds. This is ill-advised, and the problem, and the cure, should be approached as a simple breathing and attack problem.

The Correct Attack Functions

A correct movement of air through the open vocal folds will cause an area of lighter pressure (a decrease in pressure) to occur along their edges. Singers should become acquainted with 'Bernoulli's Principle': *A decrease in pressure occurs simultaneously as the velocity of a fluid is increased*. This decrease in pressure, at the instant the breath passes by the edges of the vocal folds, causes their edges to be drawn together until they begin to vibrate. It is advisable to utilize the smallest emission of the breath to produce the voice while restraining the rest of the air in the lungs. Both Caruso and Zinka Milanov advised singers to develop total command of their soft singing before developing the power of the voice. It is crucial for singers to understand that a delicate movement of a tiny stream of air across the edges of the vocal folds is all that is needed to draw them together until they begin to vibrate. A build-up of breath pressure against a closed glottis in order to make a bigger sound is destructive to the voice and to the singer. And, sadly, it is totally unnecessary if the singer receives good training in breathing and attacks.

Abdominal Effects on the Attack

The action of swelling the abdomen outward while inhaling, causes an opposite and equal reaction in the body. When the reaction to swelling the belly outward is allowed to rise up into the throat, it will cause interference with the relaxed, low position of the larynx by

pressing it upward. This pressure displaces the entire throat, including the phonation of the vowels and the vertical opening of the epiglottis. It leads to tensions that must be neutralized by other muscular actions in order to allow the edges of the vocal folds to approximate pitch.
If the lower belly (abdomen) is pulled in while inhaling, as described Lilli Lehmann and Enrico Caruso in their books, the response in the body to the action of drawing in of the breath will **relax the throat**. Tension is avoided by taking a powerful breath deep into the lower back, and prevented by using the 'lean' (appoggio) against the lower chest.
Drawing the abdomen inward while inhaling will alleviate any tension or stiffening of the throat muscles, cause the soft palate to lift up and forward, and release the vocal folds to vibrate with total freedom. Any movement in the throat becomes a **downward, relaxed reaction** to the drawing in of the breath into the lower rear quadrant of the lungs. The open throat is "…**maintained by the power of the respiration**" (Caruso).
The freedom of the throat and larynx is created by the relaxation of the throat muscles and the muscles under the jaw and chin as a response to deep breathing into the lower back. The throat opens vertically, and the back of the soft tongue moves downward in a relaxed manner, allowing the epiglottis to open to its utmost possibility. The upper pharynx, being completely open, allows the sound made by the vibration of the vocal folds to pass directly into the head, over the soft palate, over the hard palate, and into the upper half of the face, known in Europe as the 'True Mask'. 'Chantez dans la masque' (sing into the mask) is one of the oldest dictums in the history of operatic singing. It is still commonly used in theaters all over Europe.

Automatic Identification

It is obviously very important to identify the 'True Mask'. Breathing the way Caruso and Tetrazzini recommended can be justified in our own minds easily if we have a correct concept of the resonance we should be seeking. Caruso was very clear, that singing into the nasal cavity was wrong. What kind of resonance do we get if we breathe as he, Tetrazzini, and Lilli Lehmann suggest?

If we sing through or into the nose, employing the placement of the 'mmm' or the 'ng', the sound is dramatically disturbed when we pinch the nostrils closed.
If we sing into the True Mask, pinching the nose closed will have no effect on the tone whatsoever. Only the nasal consonants, which require an open nose, will be affected. 'N' and 'M' and 'Ng' are made by opening the nose, for instance. However, there is no need for an 'ah' to be nasal. In fact, singing vowels with the nose open is completely wrong. Some singers vocalize using the consonant 'B" in combinations like 'bah, beh, bee, boh, boo' in order to get the voice to resonate above the nose, across the eyes and lower forehead, and in the 'True Mask'.

The Hung Line
The best way to identify the mask is to sustain an 'ng' sound as in 'hung', 'hang' or 'England'. Notice the resulting resonance (nasal) line across the bridge of the nose. If we were to draw the 'True Mask' on our faces, the 'eng' line would be the lowest delineation of the 'True Mask'.
Sustaining the 'ng' on one long note will cause an easily identifiable resonance line to occur across the bridge of the nose. We will call this the 'hung line'. Singing vowels or words directly **into** the 'hung line' will activate the nasal resonance. Singing **below** the 'hung line' will activate resonance in the lower pharynx. Without the overtones of the 'True Mask', the voice will become artificially dark and dull. However, and this is the secret of finding the true mask: Every sound sung **above and over the hung line** will resonate in the 'True 'Mask'.
The most wonderful thing about the Caruso/Lehmann/Tetrazzini breathing techniques as described in their books is that the voice passes into the area **above the hung line automatically as a response to breathing**. There is no necessity for 'placing' or 'focusing' the voice. The function of the soft palate, the tongue, the vertical opening of the throat, and the opening of the epiglottis all become reactions to proper inhaling! This is about as automatic as it gets!

Sucking Air
Lamperti said that all problems in singing are caused by "…mismanagement of the breath". I would say, like so many great

singers I have questioned over the past half-century, that all the good things about good singing are a result of correct breathing. Some singers, like Jerome Hines, Robert Merrill, Frederick Dahlberg, Lauritz Melchior, Helge Roswaenge and Franco Corelli, would demonstrate deep, extended breaths into their lower backs for young singers. Merrill, after being asked how to breathe, would demonstrate Yoga breathing. The extreme, seemingly incredible long, deep breaths he would suck into his lower back silently through his nose were beyond belief. After an inhalation of several minutes, he would hold the breath in his lungs for or a minute or so before releasing it very slowly and silently without allowing the edges of the vocal folds to close.
Jerome Hines and Franco Corelli would make sustained 'sucking' noises in their throats, like a creaky door, creating an inward moaning, groaning sound, while sustaining a three or four minute inhalation. Corelli commented in a Master class that "…The American singers all sound like they sing through a straw! The throat goes 'squish, squish, squish.'" He hated the closed throat sound and ranted against any sign of nasality. When asked how to open the throat, he demonstrated the inhaled moaning sound for about three minutes. Then he said, "Only now the throat is open. You understand?" The medical term for the described action is 'the Mueller maneuver', which identifies the audible sucking in of air through the closed glottis.

The 'Happy Surprise'
Renata Tebaldi would take small, audible mini-gasps between phrases during her most beautifully sung lyric sections of music. She found the 'mini-Mueller maneuvers' "…helpful with creating the correct shape of her throat for singing". I asked her why she did it. Her answer surprised me: "Melis (Carmen Melis (1885-1967), Tebaldi's voice teacher) made me do it before every scale. It felt good, so I never asked her why. I know it opened my throat, especially for the high notes. All I had to do was stay 'chiaro' (clear or bright) when I used it."
All Tebaldi had to say about her breathing was that her breath capacity never matched the size of her voice. Her voice continued to grow more powerful during her career, but her breath capacity seemed more and more inadequate. She had been taught the 'happy surprise' and the 'mini-gasp' as methods of preparing the correct position of the throat, but had never learned how to expand the capacity of the lungs.

Tebaldi didn't swim, like Caruso, Melba and Sutherland, who were all ocean swimmers.
She didn't play a wind instrument, like Beniamino Gigli, who played saxophone.
She didn't practice Yoga, like Robert Merrill and Helge Roswaenge.
She hadn't been a competitive cyclist like Ezio Pinza.
She was not obese or huge in her ribcage.
She didn't know any deep, developmental breathing exercises.

Dramatic Roles Require More

Tebaldi was living proof that development of the breath capacity is necessary for great singing. Although her voice was incredible in its beauty and power, she was always struggling to reach the extreme high notes. She often sang under pitch, especially in the 'passaggio'. The complaint did not come from us. We loved her! The complaint came from her when she began to sing the big, dramatic roles. She wished for more air and sustaining ability, especially in Verdi's "Aida" and Ponchielli's "La Gioconda". Of course, those of us who heard her worshipped her sound. We felt that we should all have such problems! The only soprano who had a voice that was worshipped more than Tebaldi's was Zinka Milanov. Milanov had the advantage of being an incredibly developed breather. She could sing the most difficult music ever written for soprano voice and toss it off like it was as easy as pie.

Breathing Makes the Voice

The young singers of today must realize that the placement of the voice will be absolutely correct if the breathing is absolutely correct. Most teachers don't know how to develop the breathing of their students. They choose, instead, to accept the inadequate breathing methods their students may be trying to use at the moment, or try to teach their own faulty breathing method. Unfortunately, the teachers themselves breathe incorrectly and cannot help themselves. There was a time, not so long ago, when breathing was considered the most important aspect of a well-trained singer's vocal method. Breathing into the lower back, and 'leaning' the breath against the lower chest while singing, was common knowledge among professional singers and artist teachers. It is the breathing method recommended by every great singer who wrote

a book during the 'Golden Age of Bel Canto Singing.' Pavarotti is the shining example of a modern singer who recommends the same breathing method that was used in the early 1900's.

Rediscovery

The implementation of the inward pull of the abdominal wall while inhaling into the lower back, according to a pulmonologist I consulted, causes the **back half of the diaphragm to descend as a result of extreme contraction**. This function can **double the breath capacity** of the lungs (and create a bigger drum) compared to inhaling with the belly going outward. Lilli Lehmann called the sudden, inward movement of the abdomen before inhaling, 'the breath jerk' (Der Atemzug). The abdomen was to be jerked in suddenly and vigorously every time the singer inhaled.

Geraldine Ferrar and Olive Fremstad (1871-1951) were students of Lilli Lehmann. They were both historical singers, and, like their teacher, had very long careers without vocal problems. Pulling the abdomen inward while inhaling, a breathing method employed by the greatest singers of the Golden Age of Singing, according to their own words, was the basis for the most advantageous breathing/support method ever developed in the history of singing. Hopefully, singers, who truly desire to release the potential greatness of their own voices, will return to the same method. Perhaps, if we are to have a Caruso or Tetrazzini or Ponselle or Battistini in the future, teachers will begin to insist that their students learn the way of breathing that creates the perfectly open, free, relaxed throat. The information needed is available to the 'seekers' in the books of Caruso, Tetrazzini, Lehmann, Roswaenge, Maggie Teyte, Lillian Nordica, and Mary Garden. If time and effort are dedicated to rediscovery and good practice, the results will be, as they were in times past, entirely predictable, amazing, and beautiful!

Contrary Motion

"For Every Action There is an Opposite and Equal Reaction."
-Isaac Newton

The Inhalation

Contrary motion, a particular method of breath control, was the basis for the most advantageous breathing/support method ever developed in the history of singing. The historical tenor Enrico Caruso was a proponent of this method. He explains how to breathe and how to attack a tone as follows in his book, The Art of Singing: "Breathe deeply into the lower ribs in the back while pulling in the abdomen and raising the chest slightly. When you sing, do a contrary motion."

The Exhalation

'Contrary motion', as a concept to be used by singers, can be applied to the functions of the abdomen, the 'floating' ribs in the lower back, and the chest. This concept of breathing can be explained as follows:
The chest must relax downward in an amount that is exactly equal to the amount that it was raised while inhaling.
The abdomen must relax outward, upon exhalation, mirroring exactly the amount it was drawn inward while inhaling.

The "Bellows"

The pressure of the breath while inhaling is directed against the lower ribs in the rear of the torso. Caruso described the function of the lower ribs in the back as being "…like a bellows. They open when inhaling and squeeze together while singing."

The "Diaphragmatic Lift"

As the breath is inhaled and directed against the lower ribs in the rear of the torso, at the same time, the chest should be raised slightly. Richard Tucker and Eleanor Steber called this 'up and down' method of including the front of the upper chest in the inhalation process the "Diaphragmatic Lift".

The "Appoggio"

In order to create a contrary motion while singing, the breath that is drawn into the lower ribs during the inhalation must be 'leaned' (pressed, propped, stopped) upon exhalation against the lower chest in a motion contrary to the motion of the inhalation.

The pressure of the breath against the lower chest, sent from the lower back by the closing of the lower ribs (Caruso said "…the lower ribs in the back 'squeeze' together while singing."), is called 'appoggio' in Italian. The controlled exhalation of the breath, the 'squeezing' of the lower ribs while singing is, of course, a motion that is contrary to their expansion while inhaling.

Der Atemzug (The "Breath Jerk")
Der Atemstau (The Breath Stop)

Lilli Lehman states very specifically that the singer should "… jerk the abdomen inward an instant before each inhalation into the lower back, and relax the abdomen outward while singing". She called this sudden inward movement of the abdomen 'Der Atemzug' (the breath jerk). The inhalation of the breath, taken in silently through the nostrils, is drawn into the lower back with sudden violence to increase compression against the lower ribs.

Upon exhalation, the breath is then pressed against the chest at all times while singing. In German, this active support method is called the 'Der Atemstau' (the 'breath stop'). Lehmann taught this method of inhalation and support (in and down into the lower back for the inhalation, and up and against the chest while singing) to two historical Prima Donnas…Geraldine Ferrar and Olive Fremstad. Both of these exceptional sopranos had fantastic careers.

"Push!" "Push!" "Push!"

Luciano Pavarotti said in a Master Class at the Juilliard School in New York, when asked how he supported his voice, "It is here (He placed his hand on his lower chest) like a crying baby … push, push, push!" This process was instigated and sustained after he breathed into his back. He

demonstrated a perfect method of 'contrary motion' to the amazed audience.

An Awkward Situation

This was a particularly awkward situation, because the voice students at Juilliard are being taught a method of breathing and support that is exactly the opposite from the method so clearly described and demonstrated by Pavarotti. They are being taught to push their bellies outward while inhaling and to pull their bellies inward while singing. Pavarotti, the world's greatest singer, demonstrated the breathing and support method that is described in the books of Enrico Caruso, Luisa Tetrazzini, and Lilli Lehmann.

"The Lower Rear Quadrant of the Lungs"

Luisa Tetrazzini described breathing and support as follows:

"Inhale the first drop of air into the lower rear quadrant of the lungs, and continue inhaling until the lungs are completely filled from bottom to top."

This is a very clear explanation of how to inhale and in which direction to inhale…downward and toward the lower back. It agrees with Caruso's description of how to use the ribs in the lower back. "The ribs in the lower back expand like a bellows…the ribs open when inhaling and squeeze together when singing." How can a contrary motion be described any clearer than that?

The 'Breath Prop'

Tetrazzini then described what to do with the breath once the lungs are full of air:

"Use the 'Breath Prop' (the 'lean' of the breath, the pressure of the breath against the chest, the 'breath stop', the 'Appoggio') as you would prop a ladder against a wall. Keep the breath 'propped' there the entire time while singing. Never let the 'breath prop' relax for an instant." She also said, "Keep the pressure of the breath against the sternum at all times."

This function, called the 'Appoggio' (lean) in Italian, is again a clear example of contrary motion. The breath is inhaled inward, backward, and

downward into the lower back, and then 'propped' (leaned, pressed) upward and forward against the chest while singing.
Here we have the greatest singers in history telling us to use a contrary motion to achieve total freedom of the throat and perfect control of the voice.

A Psychological 'Trick'
Another function of contrary motion has to do with control of the deliberate, steady emission of the voice. It is very easy to demonstrate, but is difficult to explain. The process of respiration is the same as described above. However, a psychological 'trick' is used to achieve a perfectly even, smooth emission of the tone while singing. Ideally, a knowledgeable teacher should demonstrate this exercise. It will require the use of a sheet of tissue paper in front of the mouth:

"Blow the Wind Gently…"
First, blow the breath gently and steadily through pursed lips against a vertically hanging tissue held very close to the mouth.
The horizontally directed stream of air should be just enough to move the corner of a tissue paper to a 45-degree angle away from the mouth. Sustain a steady emission of the breath so that the paper remains suspended in the air at a 45- degree angle without buffeting, supported only by the gentle, outward emission of the breath through pursed lips.
Some singers use a soft whistle to establish and maintain the movement of the tissue to its desired 45-degree angle. Whistling has the additional advantage of using sound to help keep the emission perfectly even. Any change in the sound is a clear indication that the intensity of the emission of the breath is not being perfectly sustained. This is also a good exercise for the development of breath control and the sustaining ability of the diaphragm. The second hand on a watch can be used as a timer to develop long exhalations. It also provides a method that allows the singer to compare day by day, month by month, the increase in the sustaining ability of the diaphragm and the lower ribs in the back. Caruso and Pavarotti were both able to sustain the timed inhalation and the timed exhalation for five minutes each. Such prodigious breathing development, which is in

accord with Caruso's observation, that "…massive respiration is required for great singing", certainly contributed to the prowess and extraordinary vocal beauty of these two great tenor voices.

Forget Singing!

Monserrat Caballe said, "You should be able to breathe in for at least 80 seconds before you have your first voice lesson." When asked what the young singers should do if they do not have such breath capacity, she said, "Tell them to find something else to do with their lives."

The Imagined 'Contrary Motion'

As soon as the singer clearly understands the emission of the breath is something that can be perfectly controlled, proven by his/her ability to maintain the desired angle of the tissue paper while blowing the breath gently and steadily through pursed lips, the suggestion of an opposite function is then presented.

The singer must imagine that, while singing, the flow of the breath will now be reversed and drawn inward: One must be able to imagine that the 'interior angle of the breath' while singing is exactly equal to the outside angle of the breath as produced while blowing or whistling. This particular concept has inspired expressions that have become part of the 'lore' of singing:

"Singing is inhaling."
"Drink the tone in."
"Feel like the wind is blowing in your face."
"Never allow the voice to proceed outward beyond the lips."
"Nothing goes outward toward the audience except sound."

'Contrary Motion' and the Mouth

The pursed lips, used to direct the exhalation against the paper tissue suspended in front of the mouth, are moved contrarily into a relaxed smile while singing. The corners of the mouth move from a forward, puckered position to a pulled back smiling position. This movement satisfies the criterion of a 'contrary motion' for the posture of the corners of the

mouth, and allows them to become a part of the overall 'contrary motion' approach to voice production.

A Consensus of Opinions

Caruso and Tetrazzini both recommended that the shape of the mouth while singing should be "…like a gentle, relaxed smile".

Marcella Sembrich recommended that "…The mouth must be shaped like an oval lying on its side at all times, regardless of the vowels and consonants, and regardless of the emotions to be expressed."

Helge Roswaenge said to "…smile all the time, no matter what the text requires. A smile turns into an expression of grief very easily at any time it is necessary. The main thing is to keep the corners of the mouth back at all times, whether lifted up for joy or pulled down in sadness." When asked how to form the 'oo' vowel in the French word 'Amour', Roswaenge answered, "I smile when I speak of love. Don't the French smile when they speak of love?"

Counter Can Mean 'Contrary'

The famous Countertenor, Alfred Deller, (and maybe Caruso?) used the contrary motion method exclusively, and with fantastic success. He tried to draw the tone inward using the illusion of a continuous inhalation while singing. The volume level was determined by his ability to increase or decrease the intensity of air 'inhaled'. In order to develop the sense of the degree of intensity necessary to use different levels of volume in his singing, he would practice blowing outward, achieving and sustaining different angles, from 10 degrees to 90 degrees. The 10 degree angle of the tissue was sustained in order to gain a 'mirror' concept for soft singing. It was blown more intensely, and sustained past 45 degrees to an angle of almost 90 degrees, to gain the concept that loud singing should feel like a 'contrary motion' of a more intense exhalation.

Of course, the breath was never leaked at all when singing. The controlled blowing of the breath outward was used as an opposite and equal model of what the singer should imagine happening in the opposite function when sound is being produced. Deller said, "Nothing goes outward but the sound. The breath always moves inward in the

imagination while singing, and it can be perfectly controlled as to how intensely it streams back and down into the phonation process."

"Behind the Glottal Stroke"

The 'glottal stroke' in singing is an incorrect and damaging vocal attack. It is an example of the breath moving outward for the attack of the sound. It is based on exhaled, released, pushed or leaked breath that is released or 'propped' against a pre-closed glottis. One way or another, the breath must move outward to create the damaging glottal attack. The correct attack, the 'inhaling function', would cause the exact opposite effect, called by some singers 'attacking behind the glottal stroke'. In German this approach is called 'Die Verhaltungsmethode' (The Restraining Method). The respiration is continued in a constant state of 'inhaling' while singing. We know that Caruso described a glottal attack as "…singing too far forward." He described the perfect 'ah' vowel as being "…far back and low in the throat." The only way to achieve such an attack, especially if the bright 'ah' in the Italian word 'stai' is to be used, is to 'inhale the tone' instead of 'exhaling the tone'.

This approach to singing is based on a psychological concept that has the singer using his/her imagination to organize the psychomotor system to guide the breath in a direction contrary to the outward direction of the sound. The sound moves outward toward the audience with no change of emission, while the imagined inhalation is sustained inwardly and evenly in an opposite and equal direction.

Vibrations "…down inside the body"

Caruso said "…the singer should feel the tone vibrating all down inside the body." This is certainly a concept that directs the thoughts and concepts of the voice in a completely opposite direction from the exhaled tone. It is important to understand the difference between an 'inhaled tone' using the full voice and the 'inhaled tone' as produced by a countertenor. A countertenor must not allow the tone to "…vibrate down inside the body." By guiding the 'contrary motion' of the voice directly back into the upper pharynx while maintaining the 'stai' form, and

not down into the body, the purity of the high frequencies of the vocal folds can remain isolated in the countertenor voice.
On the other hand, resonance that is produced deep in the body becomes a tone that incorporates the full harmonic spectrum of the capability of an individual voice. Not everyone can produce stentorian sounds or extreme, high sounds that are acceptable. Some voices seem to have the ability to make pure, exquisitely beautiful sounds in any part of the normal range of the voice. In these voices, we can be certain that the 'air-box' is developed, and that the breath in the lungs is accessed for vibration by imaging the 'contrary motion' of the inhalation. The entire capacity of the chest and the breath in the deepest corners of the lungs should be exploited and set into vibration by the vocal folds. This is best accomplished by following Caruso's and Rosa Ponselle's advice to "…feel the tone vibrating down into the body" (Caruso) and to "…sing the tone deeper and deeper and deeper into the body to make the tone come alive."

Quotes and Actions
Joan Sutherland always described her high notes as "…moving backwards into the back of her neck".
Rosa Ponselle said Caruso told her "… to keep a rectangle in the back of her neck".
Ponselle explained: "…in order to make a tone come alive, it is necessary to sing deeper and deeper and deeper into the body". (If she really thought the word 'deeper' three times, I wonder how deep she was singing at the end of her concept!)
This vocal concept has been lost today. Everyone thinks that shoving the voice into the nose will magically produce a great sound that is not nasal!
Caruso said: "…never sing into the nasal cavity. It is against all the rules of song."
Franco Corelli said: "…inhale the voice and keep the vowels bright, especially the high notes and the 'ah' vowel, and never allow the voice to resonate in the nose."
Corelli was fanatically opposed to the nasal placement of the voice. This nasal placement, a direct result of teaching the concept of 'focus', now

dominates American voices. Corelli said: "All the American singers sing small through the nose, like singing through a straw."

The Megaphone

If we approach the use of a megaphone in a 'logical' way and sing through it to a group of friends and colleagues, we realize that, to reverse its normal function by singing into the large, open end in order to send the sound out through the small end, would not be logical at all. If we are concerned with the projection of sound, we all know that we are going to have to turn the megaphone around and speak into the small end and let the large open end face the public. Turning the phonation process around and making a big, artificial space in the throat by yawning or lifting the soft palate up and back, and then, singing through a small 'focus point' in the nose, is a good example of 'contrary logic'. The concept of 'focusing the voice' in the nose, a concept that has become popular in the U.S., goes against logic and is very destructive to the voices of singers who are deluded into using a nasal approach. However, many singers and teachers who were never singers would have us believe that the shape of the throat while singing is more efficient if it is spread open at the back and constricted and nasal at the front.

Fun with Science

We seldom see a throat doctor if we are using the breath correctly when we sing, thank goodness. However, when we are sick, especially when a performance is on the line, we go running for help. A clever thing to do is to show the doctor our tissue paper exercise: Sing a few notes and don't let the paper move at all! Every doctor is taught in medical school that the vocal folds must have breath moving through them in order for them to vibrate. When we sing without moving the tissue paper, clearly proving that allowing breath to leak through the vocal folds is not necessary, we demonstrate one of the oldest technical approaches to the emission of the voice in the entire history of artistic singing.

A Mystery

One Doctor asked me, "Where does the breath go when you sing without letting the air come out?" I had to answer honestly. "I don't know, Doctor. It is a kind of mystery to singers. We definitely run out of breath if we hold a tone long enough. All I know is a singer should never allow a breathy tone to pass through his or her throat. Nothing should come out of a singer's mouth but pure, free, beautiful sound."

Of course, the Doctor shook his head and looked at me like I was either a nutcase or an idiot. Maybe he was right in both cases. However, I will stick to my guns and never make a breathy sound if I can help it. That's one reason why I can still sing at age 74!

"Don't Sing Breathy!"

Adelina Patti was considered during her career, and maybe for all time, to be the example of a perfect singer. Lilli Lehmann described Patti as "…endowed by God with everything a singer can desire. She is perfection personified. We poor mortals must spend our lifetimes trying to perfect our Art. Patti has everything now and has had it since she first began to sing." When Patti was asked what she thought about when she sang, she answered, "Don't sing breathy!"

"I Press my Chest"

When Mattia Battistini, known as the "Gloria D'Italia" (the glory of Italy) and the "Baritone of Emperors (He was best friends with the Czar of Russia) and the "Emperor of Baritones", was asked what he thought about when he sang, he said, "I press my chest."

"Don't Make Bubbles"

Gottlieb Frick, a great German basso, once told one of my colleagues to "…Sing like you are underwater without producing any bubbles."

The Cure-All

During the past 55 years of teaching (I began in June of 1959. It is now June of 2012.), I've had many singers come to me with cases of vocal

nodules, bowed vocal folds, polyps, nerve damage, burst blood vessels in the vocal folds, so-called chronic allergies, and every other affliction singers with faulty breathing techniques experience at one time or another. Ninety percent of the problems were caused by breath leaking through the vocal folds. Giovanni Lamperti said, "All problems in singing are caused by mismanagement of the breath." The fastest way to cure ailing singers has been to teach them the concept and function of contrary motion.

Some Are Easy, Some are Difficult

Some singers respond to simple biomechanics and are cured because they change their breathing and support methods. Unfortunately, some cases are not so simple, and the concept of contrary motion has been the fastest way to cure them.

The Candle Flame

One of the oldest exercises in the history of the Vocal Arts is to hold a candle flame in front of the lips while singing to detect and prevent leaking breath. It is still a great exercise, both as a cure and as a preventative measure.

The Mirror

'Singing to the mirror' is another great exercise for singers. The idea, when using a mirror to detect leaking breath, is to not allow any fog to appear on the glass while singing with the tip of the nose touching the mirror. It is a very difficult exercise to perfect. Those who can accomplish this seemingly impossible task will cure any problems that have occurred in the vocal folds because of breathiness. Singers who leak breath are going to have vocal problems. It is not a matter of if, but a matter of when. We must remember that nothing passes through the vocal folds but air. Air (breath) is either our best friend or our worst enemy.

"The Superabundance of the Breath"

Manuel Garcia II called the retention of breath in completely filled lungs "The Superabundance of the Breath". He considered full lungs and the development of the capacity of the chest to be essential to the production of beautiful voices.

Big Drums and Little Drums

There are several reasons to develop the breath capacity as extremely as possible. Singers with a huge breath capacity can sing long, voluminous phrases without difficulty. Some composers demand singers be able to sing very long phrases, one after another, without time to relax or to refresh the supply of breath in the lungs. However, the main reason to develop what Caruso called "…the massive respiration required for great singing" is that the bigger and fuller the 'air-box', the richer and fuller the sound. Little drums sound small, even if they are played loudly. Big drums sound fuller and richer, even if played softly, because the amount of vibrating air inside the large drum is greater.

Big Bells and Little Bells

It is possible to sustain power and volume in the voice by pushing and straining the diaphragm and ribcage, but not for very long. The two tiny vocal folds, producing the vibrations that disturb the air in the lungs cannot stand the constant pressure of the breath pushing against them. If a singer wants to enjoy a long, healthy career, he/she must be able to sing easily and still have enough volume to sing over a huge orchestra. There must never be strain while singing. The secret to vocal amplitude, relative to the voice type, is the amount of vibrating air in the lungs that is not being used to actually vibrate the vocal folds at the moment (the 'Superabundance of the Breath'). The greater the size of the 'air-box', the larger and more beautiful the voice will be without having to push breath through the vocal folds to make a voluminous sound. This would explain Ponselle's advice to sing "…deeper and deeper and deeper into the body." Helge Roswaenge said, "Instead of striking a small bell harder to produce a louder sound and risking damage to the instrument, just use a bigger bell and strike it gently. It will be more efficient and last much longer."

The Open Throat

Once the singer understands the concept of contrary motion, it can be used to identify mistakes and tensions in the vocal function. If I raise my soft palate upward or up and backward, there is an opposite and equal muscular reaction in my throat. Any form of tension in the throat is to be avoided at all times. Deliberate muscular actions in the throat, like yawning or spreading the Pillars of the Fauces are absolutely not to be allowed if the goal of "no action in the throat" is to be achieved.

The 'open throat' is one of the most abused and misunderstood functions among singers and teachers. George London said, "Nothing should move unless the inhalation into the lower back moves it. The throat should not open unless the inhalation is powerful enough to cause the throat to react by opening vertically downward, upward, and sideways."

Softly and Reactively

Caruso said, "…The open throat is maintained by the power of the respiration." The throat will predictably respond to deep breathing into the lower back by opening vertically downward. So, here we have an example of how to use the concept of contrary motion to help us identify what is correct and what is not correct. If the desire is to open the throat for singing, it makes sense that it must be accomplished softly and reactively, without creating tensions or resistance in the throat. What happens in my throat if I lift my soft palate up and back as a deliberate action? Does reactive tension in the throat occur? If so, it is wrong. My goal is to find a way to keep my throat relaxed when breathing and singing, and I realize that I can use the concept of 'contrary motion' to help me find a way to open my throat without creating tension. The singer can prove to him/herself that lifting the soft palate up and back causes tense reactions in the throat, and that breathing deeply into the lower back releases tensions in the throat.

Defining the Open Throat

The strength of the inhalation will determine the following characteristics of the true open throat. Only a deep and powerful inhalation can create the ideal shape of the throat to which a singer should aspire. The ability to

maintain the inhalation process while singing can decide if the ideal shape of the throat can be maintained while singing. Inhaling with sufficient strength will determine the following characteristics of the open throat:
How extremely the throat will open vertically downward;
The degree to which the larynx is affected toward its ideal low position in the vertical tube;
The degree to which the Epiglottis is opened;
The purity of the 'ah' shape that can be maintained in the lower pharynx;
and the height and degree of forward movement of the soft palate.

Up and Forward

If a singer inhales deeply into the lower back with sufficient 'sucking in' power ("…massive power of the respiration"), a contrary motion occurs in the soft palate. The resulting high, forward position of the soft palate is achieved reactively and does not require independent action. It rises up and forward, and, at the same instant, the inhalation releases tensions in the throat, allowing the throat to open vertically downward. The larynx moves downward with the inhalation to a depth that is not greater than the power of the inhalation can move it. The larynx should never be lowered using muscles to help it descend. The inhalation is accompanied by the creation of a smile. As the corners of the mouth are drawn back, the movement facilitates the form of the 'stai' in the pharynx. The entire process of opening the throat without creating tension is accomplished through deep breathing. Is it any wonder that Caruso mentioned breathing sixty times in his little book? The entire book in the Dover version is comprised of only thirty-two pages!

The 'Pre-Sneeze' Formation

It should be mentioned at this point in our discussion, that a mechanical technique to achieve the desired up and forward position of the soft palate is possible. Leonard Warren called it the 'Smiling Pre-Sneeze Formation'. By imagining the sensations that precede a sneeze, and adding a big smile to the formation, it is possible to lower the larynx as a reaction, create a 'stai' form in the pharynx, and lift the soft palate up and forward without breathing deeply. The danger is that reactions can occur in the throat that

will make the voice sound 'artificially' produced'. The 'bottled-up' sound that some singers use is usually the result of a mechanical lifting of the palate up and forward without the corresponding vertical opening effect of deep breathing. If the mechanical lifting of the palate is accompanied by a breathing method that keeps the breath low in the body, it is possible for the psychological orientation of the singer's concept of 'singing in the mask' to be efficient. For instance, Warren used the 'frozen abdomen' (not allowing the abdomen to move at all while inhaling) method to keep the breath low in the body. However, it has been my experience, both as singer and teacher that the most reliable and efficient method for achieving the best position of the soft palate is definitely the breathing method recommended by Caruso.

The Ultimate Method

Inhalation into lower back is the secret to great singing. Caruso talked about "…the massive respiration required for great singing." What does "massive respiration" mean to young singers seeking a vocal method that will be reliable, strong, and responsive to all of the demands made by composers, conductors, stage directors, huge orchestras, and often, terrible acoustics?

First of all, 'massive breathing' should be a work in progress. This must be developed over a lifetime. The most correct breathing method will require time for its most beneficial effects to manifest themselves. We know Caruso's way of breathing and the development of his breath capacity were the most important considerations in his singing. There is simply no other subject mentioned sixty times in all of his writing and in all of the quotes attributed to him. We know he began his career as a lyric tenor and ended his career with a voice that was enormous and black in color and suited for the most dramatic roles in the operatic repertoire. His secretary described Caruso's dedication to the maintenance of his 'breath strength' by explaining exactly how the great tenor practiced his breathing during his daily long walks.

The Forty-Step Exercise

The breathing exercise practiced faithfully by the great tenor for 1 1/2 hours every day during his long walks was the '40-step' breathing exercise (mentioned in Manuel Garcia's book as a timed breathing exercise, divided into four sections of ten seconds each).

1. Walk ten steps (or, in Garcia's version, inhale for ten seconds), inhaling silently and steadily through the nose with the corners of the mouth pulled back, while drawing the abdomen inward. At the same time, allow the lower ribs in the back to expand as extremely as the breath can move them.
2. Continue the action of inhaling past full, maintaining the breath deep in the rear, lower quadrant of the lungs, abdomen tucked in tightly, for another ten steps (or ten seconds). Amelita Galli-Curci said, when asked how she breathed, said, "…to glue the abdomen against the lower spine as tightly as possible.")
3. Gradually relax the abdomen outward while exhaling slowly through the mouth (The rule is: 'In through the nose, out through the mouth.') for the next ten steps (or, if not walking, for ten seconds).

While walking the third group of ten steps, press the breath against the lower chest (the 'appoggio') while exhaling until the lungs are completely empty. The lower ribs will close together (Caruso said "…squeeze together") gradually during the exhalation. The chest should not sink lower that the degree of contrary motion equal to the degree it was raised while inhaling.

4. Leaving the abdomen relaxed outward, the chest level, and the lungs empty, walk ten steps while continuing the exhalation past empty (or for ten seconds), without relieving the pressure of the breath against the lower chest.

Repeat this 40 step (40-second) exercise as often as possible, preferably with some time every day dedicated to the development of the "…the massive respiration required for great singing". If walking is inconvenient, use the 40-second exercise and count off each section in ten second intervals.

Magic

This is an introduction to the magic of the concept of 'contrary motion'. It is a very safe approach to the production of the singing voice, and offers the singer a psychological path to perfect breath control. Every aspect of the creation of musical sounds that is available to the voice can benefit from the application of the concept of 'contrary motion'.

The Laws of the Paradoxes

'The Laws of the Paradoxes', believed by Zen Buddhists to be a set of cosmic laws, are based on one premise: Everything is the opposite of the way it should be. The ability to distinguish between right and wrong is the criterion that proves that a state of enlightenment has been achieved by the seeker.

This set of observations, reaching back over thousands of years, teaches that everything is the opposite of the way it should be, could be, or appears to be. It would seem that we should blow out more breath if we want to sing with as much volume as possible. However, if you want to make a louder sound, according to "The Laws of the Paradoxes", we must do the opposite of what seems so obvious to us and reverse our breath flow and energy direction and phonation toward the inside of our bodies. Singing with the voice placed in the nose will make the tone sound small and thin to the audience. Caruso said "…to never sing into the nasal cavity. It is against all the rules of song." Is it not a paradox that the most common approach to singing taught today is to 'focus' the voice in the nose? We know the greatest singer in history advised against singing into the nose. Would Caruso have approved of the use of 'ming, mang, mahng, mohng, moohng' as a vocalise? How would he have sounded if he had placed his voice in his nose? I think we would not have had the best singer of them all.

Applied Paradoxes (Contrary Motions)

We can use some of the oldest maxims in the history of singing to get a clue as to what the greatest singers were doing and thinking:

"Singing is Inhaling" (not exhaling).

"Drink the Tone In" (Don't blow it outward).

Giovanni Lamperti-
"The open throat in the Italian School of Singing is the same shape as the 'ah' in the Italian word 'stai'."
The 'ah' is not spread or rounded or vertical in its shape but wide and bright and *"…like a gentle smile."*
Giovanni Lamperti and Manuel Garcia II-
"The mouth should open no wider than one finger's width in the middle range, and no wider that two fingers' width in the upper range."
The jaw should never be pulled down vertically like a baby bird hoping for a worm! The mouth should open sideways with the corners pulled back, and very little vertically.
Caruso-
"The 'ah' vowel is far back and low in the throat."
The 'ah' should be formed by the deep power of the inhalation. Caruso called it the "…power of the respiration". The 'ah' should never be formed in the mouth or nasal cavity, but be phonated as a result of the deep inhalations of the individual singer. All singers are different as to how strongly they can inhale. Therefore, the 'ah' will always be slightly different in each throat. However, we know for certain putting the vowels in the nose is absolutely wrong.

Caruso-
"Beginning in the lower register and attacking the notes well back, a balance must be maintained all the way up, so that the highest note receives the benefit and support of ***the original position of the throat****, and there is no danger, consequently, of the throat closing and pinching the quality of the top notes."*
Vowel modification techniques, 'covering', distortions of the vowels, or any action of the throat that changes the "…original position of the throat" ('stai') is not to be allowed. Acoustical changes, 'Passing' or 'Covering' the tone, must happen as a result of deep breathing and not as a result of separate action. The voice will definitely 'cover' or 'pass' into the upper range if the throat is kept soft and relaxed, the 'ah' shape of the throat is maintained, and the emission is even and unchanged. It is important to understand the 'ah' form of the throat is to be maintained, not the actual sound of the vowel.

Caruso-
"Never sing into the nasal cavity. It is against all the rules of song."
Deep breathing into the lower back will cause the soft palate to rise upward and forward, thus sealing off the nasal cavity and placing the resonance of the voice **above the nose** and into the 'mask'. The air trapped in the nasopharyngeal cavity above the nose will be set in vibration if the nasal cavity is sealed off. It is the vibrations in this location of the upper face that is commonly called the 'mask'.
Marcella Sembrich-
"While singing, the mouth must be formed and maintained in a shape that resembles an oval lying on its side."
The 'front of the Megaphone' [the mouth] must not be small, narrow, pinched, or distorted into a long, pulled down form. It must be maintained in the horizontal open form of the 'ah' in the Italian word 'stai', *"…like a gentle open smile."*
Franco Corelli-
"The American singers all sing through the nose, like singing through a straw! Never sing in the nose! The Italians hate the nasal placement of the voice. The throat must be breathed open, and not closed or made narrow. The Americans close the throat when they place the voice in the nose. The throat goes squish, squish, squish!"
Dame Eva Turner-
"Inhale in your back until your throat is 'invisible'. You must sing as if your throat is 'invisible'. The tongue and jaw must be 'invisible', too. You should feel that you could pass your hand through the area of the throat or jaw while singing and feel nothing there. And always smile when you inhale and keep the corners of the mouth back permanently. Learn to keep a smile on your face at all times. Learn to converse with others with a pleasant expression on your face. Never pull the chin downward while singing."
Enrico Caruso, Luisa Tetrazzini, Helge Roswaenge, and **Lilli Lehmann**-
"When singing, the correct shape of the mouth is the same as a gentle open smile."
Richard Tucker-
"The breath does everything in singing. The voice does nothing. Just keep the corners of your mouth back and keep the voice as light as possible in weight and

color. Depend on the full breath to make the color and power of the voice. Use the pressure of the breath against the chest to prevent the breath from moving up into the throat."

Richard Tucker-

"Breathe behind you and sing in front of you!"

Zinka Milanov-

"Put the breath on the chest and sing!"

Mattia Battistini-

"I press my chest."

Giuseppe de Luca-

"Start with a soft falsetto sound sung through a smiling 'ah' vowel. Gradually bring the full voice into the smiling sound and crescendo without changing the bright vowel. Keep the pressure of the breath against the chest at all times.

When you've reached your loudest tone, decrescendo back to the softest sound you can make without losing the smiling 'ah' formation of the throat.

Do this on one breath, and do it a million times until it is perfectly controlled with no clicks or disturbances of any kind."

Contrary Logic

Unfortunately, there is a kind of 'contrary logic' that for some reason seems to be common among singers and voice teachers. It seems perfectly logical to some singers to 'focus' the voice by singing directly into the nose, although the sound that results is nasal, narrow, thin, and even ugly. Our earlier discussion of the Megaphone demonstrates the best example of 'contrary logic'. How can intelligent people conclude logically, that singing into the nose or through a small hole is a good thing? Caruso said to *"…never sing into the nasal cavity"*, and in spite of this very specific advice by the greatest singer in history, voice teachers will spend years training singers to 'focus' the voice through a small hole in the nose.

The Free, Beautiful Sound

'Contrary motion' in its correct application occurs when the singer opens the mouth in the front and breathes the throat open vertically by breathing as deeply as possible into the lower back, as if 'inhaling a megaphone'. Caruso, Tetrazzini, Roswaenge, Del Monaco, Tucker, Kiepura, Flagstad,

Pavarotti, Price, and most of the singers famous for the amazing projection of their voices sang with the shape of the mouth and the "…back of the neck" formed into a smile. Ponselle used the ''…rectangle in the back of the neck" that she learned from Caruso. Nicolai Gedda used the extreme smiling grimace with the corners of his mouth pulled back as far as possible. The reason for the exaggerated mouth position was, in his words, "…to open the throat completely." This 'laughing' or 'smiling' shape of the mouth is a perfect example of 'contrary motion' when compared to the 'contrary logic' of 'focusing' the voice into the nose.

It is my hope singers will be able to understand the concepts of 'contrary logic' and 'contrary motion' and use them to their best benefit. The concept and application of contrary motion has been especially helpful and healing for singers who have some form of damage or malfunction of the nerves in the vocal folds.
Remember: Nothing but air passes through the vocal folds while singing. If the breath is utilized correctly by the vocal folds, the voice will become healthy and resonant as it was meant to be. The ideal amount of breath that is permitted to arrive at the larynx during vocalization will be converted into beautiful, free sound, and never into a tool for causing damage or pain to the singer.

Appendix I

Glossary of Notable Names and Dates:

Althouse, Paul	1889-1954
Amara, Lucine	1924-
Ameling, Elly	1933
Amparan, Belen	1927-2002
Aragall, Jaume	1939-
Archipova, Irina	1925-2010
Arne, Thomas	1710-1778
Arroyo, Martina	1937-
Bartoli, Cecilia	1966-
Bastianini, Ettore	1922-1967
Battistini, Mattia	1856-1928
Beal, Eula	1919-2008
Bechi, Gina	1913-1993
Beecham, Sir Thomas	1879-1961
Behr, Jan	1911-1996
Bellini, Vicenzo	1801-1835
Bergonzi, Carlo	1924-
Besanzoni, Gabriella	1988-1962
Bing, Sir Rudolph	1902-1997
Bishop, Sir Henry	1786-1855
Bjoerling, Jussi	1911-1960
Bonci, Allessandro	1870-1940
Borge, Victor	1923-2005
Breisach, Susan	1896-1987
Buddha (Siddhartha Gautama)	566-486 BC (traditional) 490-410 BC (revised)
Bumbry, Grace	1937-
Butt, Clara	1872-1936
Caballe, Monserrat	1933-
Callas, Maria	1923-1977
Campogalliani, Ettore	1903-1992
Campora, Giuseppe	1923-2004
Caruso, Enrico	1873-1921
Caruso, Dorothy Benjamin	1893-1955
Chaliapin, Feodor	1873-1938
Cleva, Fausto	1902-1971
Confucius	551-479 BC
Copley, Rebecca	
Corelli, Franco	1921-2003
Cotogni, Antonio	1831-1918

Crespin, Regine	1927-2007
Dahlberg, Frederick	1907-1988
Dalla Rizza, Gilda	1892-1975
De Haviland, Olivia	1916-
Deller, Alfred	1912-1979
del Monaco, Giancarlo	1943-
del Monaco, Mario	1915-1982
De Los Angeles, Victoria	1923-2005
De Luca, Giuseppe	1876-1950
De Lucia, Fernando	1860-1925
De Reszke, Jean	1850-1925
De Sabata, Victor	1892-1967
Descarte, Rene	1596-1650
Donizetti, Gaetano	1797-1848
Dukakis, Olympia	1931-
Eddy, Mary Baker	1821-1910
Eddy, Nelson	1901-1967
Einstein, Albert	1879-1955
Farrell, Eileen	1920-2002
Ferrar, Geraldine	1882-1967
Ferrier, Kathleen	1912-1953
Finney, Albert	1936-
Fischer-Dieskau, Dietrich	1925-
Flagstad, Kirsten	1895-1962
Fleming, Rene	1959-
Forrester, Maureen	1930-2010
Fremstad, Olive	1871-1951
Frick, Gottlob	1906-1994
Fucito, Salvatore	1875-1929
Fugere, Lucien	188-1935
Galeffi, Carlo	1882-1961
Galli-Curci, Amelita	1882-1963
Gambon, Michael	1940-
Gandhi, Mahatma	1869-1948
Garcia II, Manuel	1805-1906
Garden, Mary	1874-1967
Gatti-Cazzaza, Giulio	1869-1940
Gedda, Nicolai	1925-
Ghiaurov, Nikolai	1929-2004
Giachetti, Ada	1874-1946
Giaiotti, Bonaldo	1932-
Gigli, Beniamino	1890-1957
Giordani, Giuseppe	1751-1798
Giordano, Umberto	1867-1948
Glossup, Peter	1928-2008
Gluck, Alma	1884-1938
Gould, Dr. Wilbur	1919-1994
Gueden, Hilde	1917-1998

Guelfi, Giacomo	1924-
Harrell, Mack	1909-1960
Hempel, Frieda	1885-1955
Henderson, W.A.	1855-1937
Herrigel, Eugen	1884-1955
Hines, Jerome	1921-2003
Ivogun, Maria	1891-1987
Janssen, Herbert	1892-1965
Jerusalem, Siegfried	1940-
Josephson, Kim	
Kennedy, Jaqueline	1929-1994
Kiepura, Jan	1902-1966
Kimball, Florence Page	1888-1977
King, James	1925-2005
Kipnis, Alexander	1891-1978
Kmentt, Waldemar	1929-
Konetzni, Anny	1902-1968
Konetzni, Hilde	1905-1980
Kozub, Ernst	1924-1971
Kraus, Alfredo	1927-1999
Kurz, Selma	1874-1933
Lamperti, Francesco	1811-1892
Lamperti, Giovanni Battista	1839-1910
Lao-Tzu	unknown (600-300 BC)
Lauri-Volpi, Giacomo	1892-1972
Lehar, Franz	1870-1948
Lehmann, Lilli	1848-1929
Leider, Frieda	1888-1975
Lewis, Richard	1914-1990
Lombardo, Vincenzo	
London, George	1920-1985
Lorenz, Max	1901-1975
Ludwig, Christa	1928-
MacNeill, Cornell	1922-2011
Mandl, Dr. Louis	1812-1888
Marafioti, P. Mario	
Marchesi, Blanche	1863-1940
Marchesi, Mathilde	1821-1913
Mardones, Jose	1869-1932
Margolis, Samuel	1883-1982
Martinelli, Giovanni	1885-1969
Marzollo, Dick	
Mascagni, Pietro	1863-1945
McCormack, John	1884-1945
Melba, Nellie	1861-1931
Melchior, Lauritz	1890-1972
Melis, Carmen	1885-1967
Melocchi, Arturo	

Meneghini, Giovanni B.	1896-1981
Merrill, Robert	1917-2004
Milanov, Zinka	1906-1989
Munch, Edvard	1863-1944
Muzio, Claudia	1889-1936
Nachmann of Breslov	1792-1810
Newton, Sir Isaac	1643-1727
Nilsson, Birgit	1918-2005
Nordica, Lillian	1857-1914
Obraztova, Elena	1939-1915
Olivero, Magda	1910-
Olivier, Lawrence	1907-1989
Olvis, William	1928-1998
Onassis, Aristotle	1906-1975
O'Toole, Peter	1932-
Paine, Thomas	1737-1809
Patti, Adelina	1843-1919
Pavarotti, Luciano	1935-2007
Peck, Gregory	1916-2003
Peerce, Jan	1904-1984
Persichini, Venceslao	1827-1897
Pertile, Aureliano	1885-1952
Peters, Roberta	1930-
Piccaver, Alfred	1884-1958
Pidgeon, Walter	1897-1984
Pinza, Ezio	1892-1957
Podles, Eva	1952-
Ponchielli, Amilcare	1834-1886
Ponselle, Rosa	1887-1981
Porackova, Joanna	
Prey, Herman	1929-1998
Price, Leontyne	1927-
Puccini, Giacomo	1858-1924
Reizen, Mark	1895-1992
Rescigno, Nicola	1916-2008
Rescigno, 'Papa'	1880?-?
Ricordi, Giulio	1840-1912
Rilke, Rainer Maria	1875-1926
Robinson, Francis	1910-1980
Romani, Romano	
Rootham, Daniel Wilberforce	1837-1922
Rossini, Gioacchino	1792-1868
Roswaenge, Helge	1897-1972
Rothenberger, Anneliese	1924-2010
Ruffo, Titta	1871-1953
Rysanek, Leonie	1929-1998
Ryss, Olga	1896-1983
Sanderson, Donald	

Schipa, Tito	1888-1965
Schmidt, Joseph	1904-1942
Schoeffler, Paul	1897-1977
Schoen-Rene, Anna E.	1864-1942
Schorr, Friedrich	1888-1953
Schumann-Heink, Ernestine	1861-1936
Schwarzkopf, Elizabeth	1915-2006
Scotto, Renata	1934-
Sembrich, Marcella	1858-1935
Serafin, Tulio	1878-1968
Shadur, Lawrence	1935-1991
Shakespeare, William	1564-1616
Shaw, George Bernard	1856-1950
Sheetz, Dr. Maurice	
Siepi, Cesare	1923-2010
Sills, Beverly	1929-2007
Simionato, Giuletta	1910-2010
Simoneau, Leopold	1916-2006
Slezak, Leo	1873-1946
Sousa, John Philip	1854-1932
Sperry, Paul	
Steber, Eleonor	1914-1990
Stignani, Ebe	1903-1978
Stratas, Teresa	1938-)
Strauss, Richard	1864-1949
Sutherland, Dame Joan	1926-2010
Tagliavini, Ferrucio	1913-1995
Tauber, Richard	1891-1948
Tebaldi, Renata	1922-2004
Te Kanawa, Kiri	1944-
Teresa, Mother	1910-1997
Ternina, Milka	1863-1941
Tetrazzini, Luisa	1871-1940
Teyte, Maggie	1888-1976
Thill, Georges	1897-1984
Thoreau, Henry David	1817-1862
Tibbett, Lawrence	1896-1960
Toscanini, Arturo	1867-1957
Tourel, Jenny	1900-1973
Trucco, Victor	1911-?
Tucker, Richard	1913-1975
Turner, Dame Eva	1892-1990
Verdi, Giuseppe	1813-1901
Vergine, Gugliemo	
Verrett, Shirley	1931-2010
Viardot, Pauline	1821-1910
Vickers, Jon	1926-
Vinay, Ramon	1911-1996

Von Duerkheim, Graf Karfried	1896-1988
Wagner, Richard	1813-1883
Warren, Leonard	1911-1960
Welitsch, Ljuba	1913-1996
West, Mae	1893-1980
Wunderlich, Fritz	1930-1966
Zeffirelli, Franco	1923-
Zola, Emile	1840-1902

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Trimble Vocal Institute Development of the Professional Voice
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"The human voice is the organ of the soul." Henry Wadsworth Longfellow

The aim of the **Trimble Vocal Institute** is to develop the body, mind and spirit of each individual performer entering the Trimble vocal studio. Mr. Trimble, General Director, tailors each student's program of study to the specific needs and desires of that student and follows her/his progress closely. The Course of Study offered by the **Trimble Vocal Institute** is intense and challenging, demanding each student's commitment to the development of vocal technique; foreign language fluency; a vast repertoire of operatic roles; acting and a knowledge of stagecraft and theatrical make-up.

The TVI Study Program for Aspiring Singers

Vocal Technique

-Breathing (inhalation)
As described in the books of Enrico Caruso, Luisa Tetrazzini, Helge Roswaenge, and Lilli Lehmann, and described in articles and quotes by Alfredo Kraus, Rosa Ponselle, Richard Tucker, and many others. In their books, they clearly describe a method of inhalation that is exactly the same as the **natural method of inhalation used by a baby when laughing or crying.**
During a silent, smiling inhalation through the nose, Luisa Tetrazzini said, "…to breathe in deeply into the lower back, like smelling a flower." She also said, "…The first drops of air must be inhaled into the lower rear quadrant of the lungs. The lungs should be filled from the bottom to the top".
Lilli Lehmann said to "…jerk the abdomen inward at the instant the inhalation begins and breathe into the lower back. Continue pulling the abdomen inward until the maximum inhalation is accomplished."
Amelita Galli-Curci said to "…glue the abdomen to the spine when inhaling."

Enrico Caruso said, "…to inhale by pulling the abdomen in and raising the chest at the same time."

Helge Roswaenge, a lifetime practitioner of Yoga, said that the difference between Yoga breathing and breathing for singing is the difference between "…a sleeping baby and a laughing or crying baby".

Yoga Breathing (the sleeping baby)

The belly and lower abdomen is relaxed outward when inhaling, and pulled inward when exhaling, like a **sleeping baby**.

Breathing when singing (the laughing or crying baby)

We are not asleep when we sing! When preparing to sing and when actually producing the voice, the process is reversed. The abdomen is must be deliberately pulled inward before each attack or phrase when inhaling, and allowed to drop outward while singing, like a **laughing or crying baby**.

Expansion of the Ribs

The process of inhaling as described above by some of the greatest singers in history will cause the ribs in the lower back to expand to their greatest extent. At the same time, the back half of the diaphragm will be contracted downward, greatly increasing the capacity of the lungs and chest. Enrico Caruso called the function of the lower ribs in the back as "…opening like a 'bellows' when inhaling").

One of the oldest sayings in the history of singing is: "The bigger the drum, the bigger the sound."

Some singers want to expand the upper ribs and pull the abdomen in while singing. This concept is contrary to the advice given by the greatest singers in history, and creates a small 'drum' instead of a large 'drum'. Lauritz Melchior said: "Nothing should move unless the breath moves it. There should be no opening of the throat or movement of the ribs without a powerful inhalation."

Expanding the ribs without inhaling creates a rigid, shallow 'drum', like a 'snare drum'. Let the inhalation move the ribs in the lower back, as deeply as possible (Caruso used the term, "…massive respiration") in order to get the largest 'drum' possible and the best tone possible.

-**Support (controlled exhalation)**

Using the 'appoggio' ('leaning the breath', 'stopping the breath', 'propping the breath against the chest, like leaning a ladder against a wall', or 'pressing' the breath against the lower chest while singing) in order to gain control of the accumulated breath in the lungs that is not yet needed to produce the voice. LuisaTetrazzini said to "…maintain the pressure of the breath against the sternum at all times."

Luciano Pavarotti said to "…push, push, push the breath against the lower chest while singing."

Lilli Lehmann said to "… keep the pressure of the breath against the chest while singing."

Richard Tucker said, "Breathe behind you and sing in front of you! The abdomen must go in and the chest must be lifted when inhaling and the back must fill up with air. Do the opposite when singing. Use the breath in the back to maintain the position of the chest. Don't collapse the chest while singing!" (He and Eleanor Steber called the movement of the chest while inhaling the 'diaphragmatic lift").

It is important to understand that breath is pressed against the chest while singing by closing (Enrico Caruso said "…squeezing") the ribs together in the lower back. The "…squeezing of the bellows" will compress accumulated breath from the lower lungs at a diagonal angle upward against the front of the diaphragm (the lower chest). The chest and the epigastrium will respond by moving outward and becoming firm. However, there must be no independent flexing of the muscles (as if defending one's body against a punch) in the solar plexus or in the lower belly. The activity of the belly and the epigastrium must be **reactive** to the impetus of the breath actively sent from the lower back. They must never be flexed outward independently or pulled inward while singing. The activity of the belly and the lower chest is not like doing leg-lifts or 'crunches', but resembles the **relaxation of the legs after a leg-lift is completed.**

-Phonation of the Vowels

The shape of the mouth and throat should be created when inhaling. It should resemble "…an oval lying on its side" (Marcella Sembrich, leading exponent of the Lamperti School), or an 'open smile', with the corners of the mouth pulled back, created by the "…power of the inhalation" (Enrico Caruso, Luisa Tetrazzini, and Helge Roswaenge).

The correct shape of the mouth can be seen on film as demonstrated in performance by Richard Tucker, Leotyne Price, Beniamino Gigli, Christa Ludwig, Peter Glossup, Lauritz Melchior, Maria Callas, Jan Kiepura, Nicolai Gedda, Leonard Warren, Helge Roswaenge, Elena Obratzova, Giacomo Lauri-Volpi, and many other great singers of the past. The 'open throat' as described by Giovanni Lamperti is the same horizontal shape "…as the bright 'ah' in the Italian word 'stai'".

Rosa Ponselle agreed with the concept of the 'open smile', and said Enrico Caruso told her to "…keep a rectangle in the back of the neck at all times."

George London pulled the corners of his mouth back as far as possible with the lips closed while inhaling and called it "…opening the Mask".

Nicolai Gedda was even more extreme in maintaining his corners back while breathing and singing, and called it "…opening the throat".

Marilyn Horne, Beverly Sills, and Kiri Te Kanawa can be seen using a variation of the open smile. They keep the corners of their mouths back by keeping the cheeks lifted while singing.

An "Ah" Shape

It is very important to understand the difference between singing a bright 'ah', formed and sustained by using muscles in the throat, and singing through an **'ah' shaped throat** created and maintained by the strength of the inhalation and maintained by the 'appoggio'. Any muscular action in the throat is wrong, and maintaining a stiff, 'white' or 'blatty' 'ah' vowel by resorting to muscular action in the throat is to be strictly avoided.

The correct 'ah' is a color, a form, a shape of the throat, through which all vowels are to be sung.

During Master Classes in 1962, Dame Eva Turner described the condition of the throat while singing as totally relaxed, and called it "…the invisible, smiling throat." The only way to accomplish complete relaxation of the many components that make up the entire 'vocal organ' is through deep inhalation into the lower back. Breathing in this manner creates and helps to maintain 'the invisible throat', 'the invisible tongue', 'the invisible jaw', and 'the invisible muscles under the jaw and behind the chin'. Dame Eva compared the correct form

of the throat to a megaphone. Just as a megaphone has a predetermined shape through which all vowels are pronounced, the throat should be maintained in one form, the "smiling 'ah' form", and all vowels should be sung through it. The 'megaphone function' of a singer's throat is created by deep, silent breathing through the nose and into the lower back, while, at the same time, pulling the corners of the mouth back in the shape of an 'open smile'.
Dame Eva Turner, Dramatic Soprano, and Clara Butt, the greatest Contralto in history, had the two most powerful voices the British Empire has ever produced. They both studied with the same teacher, Basso Daniel Wilberforce Rootham. Both singers used the 'megaphone' created by deep inhaling into the lower back through a smiling, 'invisible' throat. Both singers had very long careers without vocal problems.

-Emission of the breath-
There must be no change of the emission of the breath while singing. The singer must learn to be perfectly still in the chest and maintain the 'sternal arch' at all times. It is obvious that some part of the body must collapse as breath is used for singing. The singer must guard the chest (the sternal arch) to make certain that it does not collapse, and that the belly does not move inward while singing. Only the ribs in the lower back may move (collapse). As they close (squeeze together as breath is used for singing), only they are allowed to send the proper emission of the breath to the vocal folds as needed to produce the voice. Any other part of the body that is not essential to the breath control system can move if necessary while acting. However, the smooth, constant emission of the breath required to produce the legato basis of singing and the security of the upper range of the voice, depends on absolute stillness of the interior of the chest, perfect control of the diaphragm and the 'sternal arch', and perfect smoothness of the closing ('squeezing') of the ribs in the lower back.

<u>Breath Development</u>

-Yoga (Helge Roswaenge and Robert Merrill were very advanced practitioners of Yoga)

-Martial Arts will teach the performer how and when to be assertive, and when and how to yield and relax. The singer who practices Martial Arts will increase stamina, performance energy, and immunity against colds and illness in general.

-Long distance swimming develops breath capacity and breath stamina like no other exercise. The Breast Stroke and the Crawl are the best swimming strokes to develop breath capacity. Enrico Caruso, Nellie Melba, and Joan Sutherland were ocean swimmers.

-Learn to play a wind or brass instrument. Beniamino Gigli was a saxophonist, Fritz Wunderlich was a French horn player, Kim Josephson was a tuba player, and Nikolai Ghiarov was a trombonist and clarinetist.

-Bicycling. Ezio Pinza was a competitive cyclist.

-Rowing (also a rowing machine), and the 'breast stroke' in swimming, help to open the chest, develop the 'sternal arch', and expand the capacity of the lungs. It is important to increase the size of the 'air-box' during the singing career, but only in a natural, healthy way. "The bigger the drum, the bigger the sound". Less effort will be required when singing over large orchestras if breath capacity is fully developed.

-Hiking or going for long walks while practicing Enrico Caruso's favorite, 40-step breathing exercise:

Walk ten steps while inhaling. The lungs should be completely full at the count of ten..
Hold the breath in the filled lungs and walk another ten steps.
Walk ten steps while exhaling until the lungs are empty, exactly at the count of ten.
Maintain the emptiness of the lungs while walking another ten steps.

Repeat this exercise while walking or hiking for long periods if possible. Enrico Caruso did this exercise, according to his secretary, for 1 1/2 hours every day!

If the series of ten steps times four segments is too strenuous, reduce the number of steps per segment until a 'possible' number is found. Ten steps are ideal, and can be accomplished with time. Counting teaches the body/mind connection not only to operate from full lungs to empty lungs and back, but also teaches the singer to regulate the inhalation and the emission of the breath.

Fluency in Languages

-Italian
-German
-French
-High English (/The 'Queen's English, or Classical Theater English)
Diction and articulation in all four languages- 'High', classical, European theater pronunciation must be learned in every language studied). High Italian is best learned in Tuscany (Florence or Siena), High German in Hanover, High English at the 'Old Vic School' or from an actor who has been trained as a Shakespearian actor, and High French in Paris from an actor who has been trained at the Comedie Francaise'.

For concert singers add:
-Russian
-Spanish
-Latin
-American English employing as many pure vowels as possible. Some sounds, like the American 'er' should be avoided if possible. Most successful singers who sing American Art songs use the 'schwa' sound in place of the 'er'.

Musicianship

- Piano. Competence at the keyboard is a big help to singers in many ways. It will assist and improve the singer's abilities in other areas of music. For instance, the list of aspects of music as recommended below:
- Music theory which includes
    -sight singing
    -ear training
    -chord structure
    -harmonic progression
    -harmonizing
-The Italian system of Solfeggio, used commonly in Europe.

Study and learn operatic repertoire suitable to the voice type in the most popular languages:
- -Italian
- -German
- -French
- -English

Learn Art Song repertoire suitable to the voice type
- -German
- -French
- -Russian
- -English
- -Spanish

Read Books
written by great singers:
- -Enrico Caruso
- -Luisa Tetrazzini
- -Lilli Lehmann
- -Maggie Teyte
- -Lillian Nordica
- -Mary Garden
- -Giacomo Lauri-Volpi

written by great teachers of singing:
- -Giovanni Lamperti
- -Manuel Garcia II

written by novelist, Anne Rice:
- -*Cry to Heaven*

written by philosophers:
- -Graf Karlfried von Duerckheim (*Hara: The Vital Center of Man*)
- - Eugen Herrigel (*Zen in the Art of Archery*)

Study interviews with great singers and quotes attributed to them:
-Rosa Ponselle
-Mattia Battistini
-Zinka Milanov
-Alfredo Kraus
-Dame Joan Sutherland
-Dame Eva Turner

Study recordings and videos of great singers in performance (**Youtube** is a great resource):

Sopranos

-Luisa Tetrazzini
-Nellie Melba
-Adelina Patti
-Kirsten Flagstad
-Rosa Ponselle
-Amelita Galli-Curci
-Frieda Hempel
-Helen Donath
-Rebecca Copley
-Joanna Porazkova
-Claudia Muzio
-Renata Tebaldi
-Zinka Milanov
-Maria Callas
-Nellie Dutoit
-Mimi Coerzte
-Birgit Nilsson
-Elisabeth Schwarzkopf
-Helen Donath
-Lucine Amara
-Joan Sutherland

Mezzo-sopranos

-Ebe Stignani
-Irina Akhipova
-Elena Obratzova
-Christa Ludwig
-Giulietta Simionato
-Janet Baker
-Jenny Tourel
-Agnes Balsa
-Eva Podles
-Marilyn Horne

Contraltos

-Clara Butt
-Louise Homer
-Ernestine Schumann-Heink
-Belen Amparan
-Maureen Forrester
-Marion Anderson
-Kathleen Ferrier
-Eula Beal

Tenors

-Tito Schipa

-Jussi Bjoerling
-Fritz Wunderlich
-George Thill
-Beniamino Gigli
-Enrico Caruso
-Helge Roswaenge
-Leo Slezak
-Lauritz Melchior
-Aureliano Pertile
-Richard Tucker
-Fernando De Lucia
-Mario Del Monaco
-Nicolai Gedda
-Franco Corelli
-Jan Peerce
-Joseph Schmidt
-Alfredo Kraus
-Ferrucio Tagliavini
-Michael Trimble

You can hear the author of this book on **Youtube** or on his website **trimblevocalinstitute.com**

Bass-Baritones

-Mattia Battistini
-Tita Ruffo
-Giuseppe De Luca
-Kim Josephson
-Paul Schoeffler
-Robert Merrill
-Leonard Warren
-Lawrence Tibbett
-Nelson Eddy
-George London
-Tito Gobbi
-Friedrich Schorr

Basses

-Jose Mardones
-Nikolai Ghiarov
-Cesare Siepi
-Jerome Hines
-Giorgio Tozzi (early recordings only)
-Gottlieb Frick
-Feodor Chaliapin

Acting should be studied, ideally, with a stage actor who has extensive experience in live theater. It is essential for singers to keep the 'air-box' still while singing. it is possible to move the arms and legs, to bend over, to lie down, to throw the head back or from side to

side, to do somersaults, and just about any physical move the performer might wish to make while singing while protecting the integrity of the 'air-box'. However, it is the singer's responsibility to never allow the acting to become more important than the internal stillness of the chest, the firmness and stability of the 'sternal arch', the openness and expansion of the 'drum', the 'air-bucket', the air-filled space created by the chest and the lungs.

Stagecraft-Singing in the Opera can sometimes be problematical because of the 'slow-motion acting' caused by the dictates of the music. Stagecraft becomes more important than actually portraying character if the music is extremely slow and each word of text is sustained in a way one would never use in real life. Stagecraft can help a singer get through the very slow, often repeated 'conventions' of opera. The slow, sustained sections of the music and the text may drive real actors crazy, and especially stage directors who come directly from straight theater. As soon as they try to read the lines themselves at the crawling speed of some sections, they become a little more sympathetic to the singers who are doing the best they can to try to make sense of it all!

Make-up- Knowledge of the effects of make-up can be very important to a performer. All people do not look the same or respond the same way to a 'standard' make-up situation. Most professional make-up artists know what they are doing, but it cannot hurt for each singer to know which colors work best for her/him.

Foods singers should avoid completely on the day of a performance::

-chocolate
-bananas
-citrus fruits and juices
-nuts
-wine, especially white wine. It contains chemicals that act as a preservative.
-spicy foods, especially 'hot' seasonings
-milk and foods containing milk products
-very cold or very hot foods

Foods to avoid before singing in a humid environment:

-chocolate
-bananas
-nuts
-tomatoes
-citrus fruits and drinks
-ice cream
-spicy dishes
-beer

The foods mentioned above tend to produce mucous. Some of them may be helpful in a very dry climate because they prevent the throat from feeling dry. The individual singer must test them for himself/herself on performance-free days and find out what keeps the throat moist and what can produce an overabundance of catarrh.

If in a dry environment, avoid the following drinks that tend to dry the throat:

-wine (both white and red)

-tea, especially black (and some herbal teas can exacerbate dryness)
-alcohol (spirits) except beers and ale/beer can actually help alleviate dryness in the throat if taken in small amounts
-citrus fruits or juices

The individual singer must experiment with food and drink and find out for himself/herself what helps and what does not.

Two hours before singing, avoid the following:

-alcoholic beverages, especially beer or ale in a humid climate
-champagne or wine in a dry climate
-iced or refrigerated drinks
-hot drinks, including apple juice. Any drink taken before a performance or during a performance should be no hotter than lukewarm.
-fizzy, bubbly drinks (never!) Colas should have the 'fizz' shaken out of them before a singer drinks them.
-any kind of nuts or seeds
-black tea in a dry climate
-drinks with caffeine, especially very hot or iced.

Ideal Behavior and Lifestyle for Singers

-No Smoking! We all know that smoking is bad in many ways, but singers in particular can irritate the edges of the vocal folds by sucking smoke through the throat and blowing it out through the throat. Some singers smoke and it does not seem to bother them. We will never know if their voices may have been 'fresher', more beautiful, or more full of 'ring' if they had not smoked. Caruso and Chaliapin were chain smokers, and managed to sing fantastically for many years. They are best considered the exceptions to the rule. Most singers suffer from increased catarrh (phlegm) if they smoke, and are constantly clearing the mucous off of the vocal folds. After a while, the voice can begin to lose beauty and clarity because of the constant irritation of the vocal folds. It is better in every way not to smoke, and that includes any substance that may be smoked!

-Practice Yoga every day and its extreme breathing exercises
-Practice Yoga breathing with every breath taken during the day
-Practice a Martial Art to learn how to assert oneself and how to back off when necessary without losing 'charisma'.
-Learn to play a brass or wind instrument and commit to regular practice times. The need to sustain the pressure of the breath against the reed or mouthpiece will train the muscles in the lower ribs in the back of the body to support a constant, even emission of the breath.
-Become a great swimmer, unless allergic to chlorine. Take lessons if necessary.

Freestyle and Breast Stroke increase breath capacity. Push your breath capacity: i.e. go for 2,4,6 stroke breath-holding in Freestyle for increased control of inhalation and emission.

-Stay away from noisy environments, except laughing or crying babies who are perfect examples of how to get the most out of inhaling, 'leaning' and phonation.

-Observe the tummies and lower backs of laughing or crying babies (the instinctive breathing and support systems), and the instinctive shape of the laughing/crying mouth at every opportunity.

-Do not talk or spend time in noisy or smoky environments.

-Avoid exposure to pets. Some pets can cause allergic reactions.

-Avoid massage the day of a performance. The relaxation of the muscles that is wonderful the day before a performance is bad on the same day of a performance. Do Yoga postures instead.

-Avoid cold rehearsal rooms.

-Always dress warmly, especially the head, the throat, and the feet.

-Do not speak in cold rooms or outside in cold weather

-Learn to inhale only through the nose. The cold air will have time to warm-up before it passes through the throat.

-Do not yell for any reason, ever.

-Do not argue for any reason (it is better to get up and leave the room)

-Avoid high emotional states, both your own and anyone else's.

-Avoid loss of sleep.

-Avoid talking as much as possible.

-Learn to love silence.

-Communicate with gestures as much as possible. Save the vocal folds and the diaphragmatic, mental energy for singing.

-Avoid extreme dryness or humidity, and employ measures to neutralize them by using humidifiers or dehumidifiers.

-Avoid dusty environments. If a hotel room seems dusty or extremely dry, let the hot shower run with the bathroom door left open. The steam will add moisturize to the room and help to neutralize the dust.

-Avoid exposure to allergens, especially pets indoors that are not your own sometimes it is better not to go for a walk outside if the season is producing allergens among plants and trees.

-Avoid perfumes and perfumed lotions and shampoos and detergents. If a colleague is using tons of perfume, complain or change rooms

- Avoid singing low roles, dramatic roles, or roles that are accompanied by heavy orchestrations. A role that combines all three characteristics should be eliminated from the singer's repertoire unless the singer is very mature and experienced.

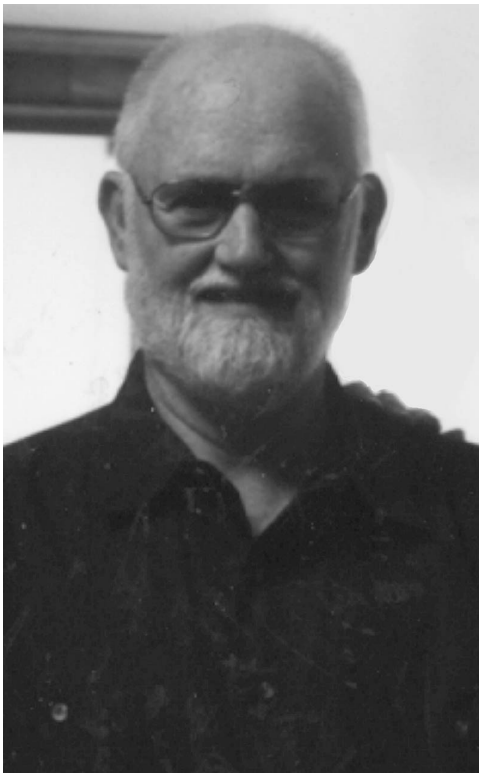
-Avoid unhealthy relationships. Emotions can ruin the necessary state of mental calm needed by professional singers, especially tenors. Many careers have been ruined by an emotional, selfish spouse or sweetheart.

-Listen as much as possible to a broad spectrum of classical music, both vocal and instrumental.

-Listen to live performances of classical music and opera as often as possible.

-Don't trust anyone who can't prove what they are saying. Beware of the "blind-faith" approach to teachers and coaches. Demand to hear the teacher's recordings or **Youtube** examples.

-Only take advice from a teacher who has had an established professional career as a singer of opera and classical, vocal music. Ever if he/she has difficulty passing on information, it will still be a great deal safer than information passed on by someone who never actually had a singing career.



Michael Trimble, Director

Trimble Vocal Institute

"...Judging from the enthusiasm of opera lovers last night at the second production of the ***Opera Piccola!*** series at the Naples Philharmonic Center, Naples might prove to be an ideal place for an American version of England's Glyndebourne ... The performances throughout the evening were on a very high level... Under the direction of opera coach Michael Trimble, the format of the program, with charming commentary about
the "verismo" operas on the program, was ideal for those who prefer their opera in concert form…it was a fine night for singing!" *Naples Daily News*

Michael Trimble won both the Metropolitan Opera Auditions and the American Opera Auditions in 1963 and made his debut in Milan at the Teatro Nuovo as *Cavaradossi* in Puccini's Tosca. He studied voice with Mack Harrell and Olga Ryss. He has sung over 60 leading tenor roles of the Italian, French and German repertoire throughout Europe, Canada and the United States. Mr. Trimble performed with such celebrated conductors as Karl Bohm, Christoph Dohnanyi, Charles Mackerras, Nello Santi, Ferdinand Leitner, Wolfgang Sawallisch and Karl Richter. Mr. Trimble served as Chairman of Vocal and Choral studies at the Cleveland Institute of Music; Professor of Voice at the University of Texas at Austin; Guest Professor at University of Miami; and as a member of the voice faculty of the Aspen Music Festival for over 25 years, Mr. Trimble created and directed the **Aspen Vocal Institute**. In 1990, ***Opera America*** recognized Mr. Trimble as the leading authority in the vocal training and development of young singers. In 1992, Mr. Trimble formally established the **Trimble Vocal Institute**, consolidating under one roof his innovative development and performance programs, and his professional voice studio**. *Opera Piccola!***, the performance division of the **Trimble Vocal Institute** met with extraordinary success during the 1996-97/98 Naples, Florida Philharmonic Center Season with a concert series of Opera and Musical Theatre Highlights. Mr. Trimble is recognized internationally as a voice teacher and repertory coach and, despite his attempt at retirement, still maintains an active voice studio and vocal consultation service.
His students are singing in opera houses throughout the world. The **Trimble Vocal Institute** is thriving on Bainbridge Island, Washington in the beautiful Pacific Northwest where Mr. Trimble and his wife, Cantor Pamela Trimble, relocated in May 2001.