

## Born to Sing

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I can't remember a time when I did not sing. My earliest memories are of singing with my mother while she baked bread or did the ironing. I sang my first solo in our church when I was four years old. I did not begin any formal voice training until my voice broke when I was 14 years old. I grew up in a small village in Nova Scotia and was indeed fortunate to have Vivian Brand, a music educator par excellence, as my first singing teacher. She taught music in the schools in the nearby town. Every child or teenager who came in contact with her could sing because she firmly believed we are born to sing. These two sound clips are of the teenage choral group "The Trebelettes" who were trained and conducted by Vivian Brand. If my memory serves me correctly, there were four voices to each part.

The musicality of these young singers, the phrasing, the intonation, blend and the beauty of tone, are a great tribute to the love and skill of Vivian Brand. It isn't that these youngsters (now mostly mature ladies!) had extraordinary vocal gifts. Most young people, if they are fortunate enough to find a teacher with Vivian's insights and talent for teaching, can sing like this. Like Michelangelo, Vivian could remove what lay on the surface and reveal the true beauty of what was already there within these singers. She believed such beauty was there and she knew how to uncover it. She simply would not accept anything less than what she believed was there. Isn't that what teaching should be all about?

"Somewhere a child in the dawning is singing" (mp3 file 1.24Mb)

"Dream Angus" (mp3 file 2.67Mb)

When I went to the University, the professor who taught School Music Education impressed upon us that all children, unless something is organically wrong, can sing. We learned various skills, exercises and ideas, (including "tone matching" games) to use with children who were so-called "droners"-- meaning they could not sing in tune. (The professor also impressed upon us that droners were most often children who had not been sung to at home.) (See "Tonematching exercises")

These tone matching games developed and reinforced the coordination between the ear and the larynx. Once this is done the child sings in tune. It can be that simple.

I applied these skills when I taught school music in Montreal between the years 1962 and 1966, to children between age 6 and 13.

In this four year span, dealing with hundreds of children, there was not one who, eventually, could not sing. At most, it took about three months (one half-hour class lesson per week) of tone matching exercises before all were "in tune" (and usually it took less); in the end they all sang and what fun they had doing so.

A grade 4 class (10 year olds) at Maisonneuve School, Montreal recorded May 1962 (wav file 145K)

Why then are so many people reluctant to sing? Why do they feel they can not sing at all? It is a strange situation, given the fact that children love to sing and their first attempts at speech are singing sounds. And it is even stranger, given that with the right help children can, and want to, sing. In my experience, people who are embarrassed to sing (or who think they cannot sing) almost always were told in school that they had an ugly voice, sang too loudly, that they did not know how to sing or were "droners." They were excluded from class singing or the choir and still feel hurt about it. Children tend to believe what adults tell them and are, therefore, at the mercy of teachers and parents. If they are told they cannot sing, they will believe it. They will not be able to sing--at least not until their beliefs change.

It is cruel to tell a child he does not know how to sing, and people suffer for years because of it. If you are someone this has happened to, then you have been deprived of a right that is as basic and natural as using your hands, skipping, or breathing.

This is a very good example of what F.M. Alexander meant when he said the way we think of a thing influences how we use it. In this case, a child being led to believe he cannot sing influences his ability to sing. On the other hand, the way I was taught to think about children being born to sing enabled me to help them overcome the obstacles that prevented them from singing.

When we come to the training of singers, we see that almost every singing teacher thinks of the voice in a somewhat different way. These various ways of thinking result in just as many "techniques" or "methods" as there are teachers, each one attempting to produce a good sound. These "methods" are then reflected in the physical use of the singer as he attempts to put them into practice. Some approaches to singing are clear and trouble free, resulting in a generally well-

coordinated use of the body. Others could not be more difficult, resulting in heavy muscular effort, gasping for breath, and unease.

Despite such varied approaches to singing, it is clear that the end result most singing teachers are looking for is usually the same. A true story illustrates this point: A fine young singer gave a recital at an International Conference of Singing Teachers. At the end of her recital all the singing teachers gave her a standing ovation and most of them said: "Of course she uses my method!"

The only way to cut through so many different approaches is to understand what the voice is and how it works. I think the most important first step to good use of the voice is a desire to communicate. In the introduction to their book called, *Singing: The Physical Nature of the Vocal Organ*, by Professor Frederick Husler and Yvonne Rodd-Marling, Rodd-Marling says, "Singing is a highly physical happening, a unique form of communication produced by muscle-movements set in motion by a fundamentally emotive desire to express beauty."

Everyone communicates their thoughts and feelings each time they speak--day in and day out. Rarely does anyone think of vocal technique when they do so. They want to say something and do so. Some find communication an easier task than others, but we can safely say we know how to do it. Our survival more or less depends on it.

However, that singing is a "unique form of communication" should be examined.

What does Rodd-Marling mean by unique? The communication level required by anyone who wants to sing well needs to be on a very large scale and to be overtly emotional. It is this exaggerated level of communication of feeling that actually sets in motion and coordinates the vast, complex muscle structures of the singing instrument. This puts a very great physical demand on a professional singer--as great a demand as that of any top athlete.

At this point let us see how Rodd-Marling's definition of singing might change our approach to singing or speaking. Her idea rests on wanting to communicate something and on the desire to express beauty.

Sing a song. Any song you know well. Or take a piece of prose or poetry and read it aloud.

Are you aware that as you began to sing or recite, you lose some sense of communication? Perhaps not, but, if you do, then try the following: Have the desire to communicate the mood or feeling of a song/poem to someone else. Keep the desire to communicate the feeling uppermost in your mind. If a friend is working with you, communicate it to her. Otherwise, try looking into your own eyes in a mirror. (Notice that it is your eyes that begin the expression, the feeling. When you smile, the eyes smile first and lead the lips. To begin with, check to see that your eyes are friendly, humorous, warm and welcoming. You can add other emotions later, as you wish.)

Play with this idea for a while and repeat it until you are satisfied you have really communicated some feeling. Now, repeat what you sang, and make sure you want the sound you are making to be as beautiful as possible. Has anything changed? Was it different? Was it easier? Did you begin to get the feeling that somehow "the right thing did itself," as Alexander would say? Did you have a sense that the whole thing was somehow deeper, more complete, more intense?

I think you will find that keeping the thought of wanting to communicate and express something beautifully will help make vital changes in your general coordination and will bring about a different and easier use of your body and improve the quality of the sound you are making.

I'm sure Alexander must have had a strong sense of communication and most likely did it automatically. He was, after all, an actor, a performer. Performers want to communicate at this strong level, and do so. It's what motivates them and should motivate anyone working with singers and actors.

It is easy to lose sight of this important aspect of vocal work when concentrating so heavily on learning new skills, either as a singer practicing vocal exercises or an Alexander teacher absorbed in refining balance and coordination.

The temptation to become involved internally with what is going on is very great when so much emphasis is placed on inhibiting old responses and learning any new skill.

Therefore it is important that the student maintain a strong connection with the world outside himself.

A desire to communicate is a good way to establish this connection. As Rodd-Marling says in her definition of singing, the vocal and breathing mechanism is set in motion by the desire to express oneself and to communicate. Therefore, including communication in vocal work is absolutely essential to the functioning of the instrument as a whole. Otherwise, singing can become all too difficult and mechanical.

During a performance it is impossible to control consciously each of the many parts of the whole singing instrument, all of which need to work at the same time in a highly coordinated way.

During practice, however, conscious control wants to be directed at maintaining the poise and direction of the body to allow the voice to emerge by itself while working separately on the various parts of the singing instrument to wake them up and bring them into play so that the whole instrument is ready to work. Both these aspects make up a good practice or training session and they need to be repeated (grooved, in tennis terms) until they work automatically during the performance.

Maintaining good Alexander directions is by far the best way of ensuring easy access to the various parts of the breathing and vocal mechanism.

But, as I have said so many times, standing well enhances a performance but should never become the performance itself.

Without the desire to express something, the vocal organ cannot cooperate and then, if you want to sing, you will have to "do" it.

Using the thought that the whole mechanism is set in motion by the desire to communicate helps the singer avoid "doing" and prevents voice work from dwindling into a series of mechanical movements. Why this is so and what that mechanism is in its entirety will become clearer when we have looked at the anatomy.

What, then, is this vast vocal organ? Of what is it made? How does it work?

It is an instrument which goes from the crown of the head to the soles of the feet and specifically involves the breathing organ and the larynx.

Each of these is made up of many smaller parts, all of which need to be fully awake and active before the "whole" instrument can work together. It's rather like a very good watch. A watch is made up of many individual parts, each one important in itself yet it takes the working of the whole watch in order to produce the "tick-tock" and for the instrument to tell time.

Let us take a closer look, starting with the anatomy of the larynx. The larynx is situated at the front of the neck and is made up of three cartilages:

a large one which contains the vocal folds, called the shield or thyroid cartilage

a smaller one below, and attached to it, called the ring cartilage and

two pyramid (or arytenoid) cartilages which sit on top of the ring cartilage inside the shield cartilage.

The back ends of the vocal cords are attached to the pyramid cartilages. These cartilages are responsible for bringing the vocal cords together.

#### Fig 01

The shield and ring cartilages are suspended in a sort of "cat's cradle" of muscles. (Fig 02) Some muscles connect the larynx to the top of the chest (d), (anchoring it forward and down), others connect upward to the tongue bone (a) while others attach upward and backward to the soft palate (b) and the head (c). Yet another muscle connects the back of the larynx to the gullet (e) while another pair run from the shield cartilage to the shoulder (not shown in the diagram below). All these muscles form what Husler and Rodd-Marling called an "elastic scaffolding" or suspensory mechanism around the larynx.

#### Fig 02

At rest, none of this elastic scaffolding is very active and the vocal cords themselves are inactive.

During speech, some of the suspensory musculature of the larynx is brought into action and the cords become active.

However, only during singing does the whole of this mechanism become fully active and join up with the entire breathing organ.

As I learned from Husler and Rodd-Marling, the singing instrument only exists when it is singing. Anatomically it must be a singing instrument because, so they argued, so little of the instrument is involved during ordinary speech. Speech is, therefore, an inferior use of the whole instrument..

Whether the individual chooses or is inclined to use it to sing depends on many factors, one of which I dealt with at the beginning of the chapter.

The idea that people were born with a singing instrument had a profound effect on me when I first

heard it 43 years ago and it continues to influence and fascinate me. It is a fact which is usually overlooked when dealing with the voice, but what a powerful tool with which to approach any voice work.

First and foremost it means that the singer is always his own instrument. No instrumentalist is faced with such a situation. A cello is always a cello. The instrument is always there. The same applies to all the other instruments. Yes, the instrumentalist should learn how to maintain his own body poise and direction in relationship to the instrument. He is an extension of the instrument, but the instrument itself is not wholly dependent on him--mind, body and soul--for its shape and form.

The voice, however, is the exception. A singer has to establish the "poise and direction" and the shape of his instrument each time he sings and it is entirely susceptible to his moods and thoughts.

The entire suspensory mechanism exerts a stabilizing force on the shield, ring and arytenoid cartilages which, in turn, stabilize the vocal cords as they lie, stretched front to back, inside the shield cartilage. This intricate relationship of muscles is affected positively when the head is allowed to be free on the neck. Each muscle achieves its proper length and connection with the other in an optimum state for functioning well. The muscles work together, each set meeting the opposing pull of the other which allows the larynx to become poised, balanced and properly suspended. The vocal cords are actively lengthened and stretched by this action and thus brought closer together. In these favorable conditions they can close properly to execute the sound quickly and efficiently and thereby produce a clear, clean tone with a minimum of effort. The throat is properly open--in Alexander terms, "lengthened and widened."

It is easy to state, as an Alexander teacher, that the neck should be free in order for the head to go forward and up.

But how does one effect this freedom of the head on the neck?

Alexander stated very clearly that he made no progress with the ability to free his neck and let his head go forward and up until he sorted out what he was doing with his feet and his legs.

What lies behind this statement?

Whether we perceive it or not, we are constantly supported, via the bones of the skeleton, by mother earth. As my dear friend, the late Dr. Chris Stevens often said: "Mother earth is supporting you whether you want her to or not."

It was Chris Stevens and Nadia Kevan's work on the support system which finally helped me understand the essence of the Alexander Technique.

It is only when we can feel the support from the earth underneath us (rising up through the bones of the feet, legs, pelvis and spine, thus freeing the muscles of movement from needing to keep us from falling over) that we can have any success in freeing the neck and letting the head go forward and up.

If there is any question of not feeling supported by the earth via the bones of the skeleton, any feeling of danger that we will fall over, especially fear of falling over backward, then we will stiffen our neck and shoulders in order to protect the head.

There is nothing wrong with this primitive reflex in itself. It does, after all, save our lives. But it isn't a state we need to go around in all the time and it certainly isn't a fit state to be in if one wants to sing properly."

To get back to the anatomy of the voice:

If the head and neck can be free and the various laryngeal muscles are thereby allowed and encouraged to stabilize the larynx, and the vocal cords respond by closing and stretching, then the sound produced is correct.

If the cords do not close properly, then the tone sounds breathy, husky, limited, uncomfortable and powerless to both performer and listener. There is then a great temptation to make extra effort to achieve more power by increasing the air pressure. If this state is not corrected the cords will soon

begin to produce a protective mucous covering which makes for a very uncomfortable feeling in the throat and sounds unpleasant. Singers call such mucous a "frog in the throat."

The application of extra air pressure is often accompanied by greater physical effort involving poor coordination between the muscles of the ribs, back, arms, and legs, and a considerable collapse in the torso. This is poor "use" of the body indeed.

If the use of excess air pressure is allowed to continue it can lead to the formation of polyps or nodules on the inside edges of the cords. This can feel like a sore throat, a permanent feeling of "frogs in the throat," hoarseness, or all three. The tone will be husky, unclear and weak.

In some cases these growths have to be removed surgically and there is no guarantee that the singer will recover his voice after such intervention. More than one famous singer has had to end a stellar career after surgery for the removal of nodules.

Another result of a poorly erected and suspended vocal organ is that it can give rise to top notes cracking or the voice breaking. Because of undue tension in the neck, one (or more) of the suspensory muscles will not be in balance with the others and, robbed of its proper length, does not have enough strength to keep directed when singing a top note. The healthy tension in the vocal cords needed for top notes (which is dependent on the stability of the elastic scaffolding) is thereby suddenly and dramatically reduced and the note sounds as if it has cracked or split. The muscle gives way much the same as when a tent peg suddenly pulls part-way out of the ground. The tension in the guy ropes lets go and the tent sags. However drastic a cracking note may sound it by no means signals the end of a career providing it is dealt with early enough. It means more training is necessary and this needs to be attended to immediately.

There are several other areas of direct interference with the larynx which are potentially hazardous to the suspensory mechanism. For instance, if the lower jaw is pulled back and/or stiff, then the tongue and the laryngeal suspensory muscles attached to the tongue bone will also be stiff. This resulting stiffness is passed on from the jaw through the tongue to the larynx and thus to the vocal cords, and renders them less powerful.

Another form of interference to the suspensory muscles is caused by the mistaken idea many singers have that an open throat (which all agree is necessary for singing) involves lifting the soft palate upward while pushing downward with the back of the tongue.

A quick look at the anatomy will tell us what happens if the tongue is pushed downward. (Fig 03)

The shield cartilage is attached to the underside of the tongue bone (hyoid) while the tongue is attached to the top side. If the tongue is then pulled backward and down onto the hyoid bone the entire structure is forced downward onto the top of the shield cartilage and this destroys the balancing upward pull of the attached suspensory muscles. All the other suspensory muscles are thrown out of balance, the back of the throat is completely blocked by the tongue and the vocal cords are quite literally crushed by the action. Their function is greatly impaired and the result is a loss of tone quality, range and power. The sound is throaty and lacking in resonance. This is one of the most common problems found in singing and is referred to as depression of the larynx.

A throat in such a condition (where the larynx is not properly suspended, the whole structure is cramped by a head pulled back on a stiff neck and the larynx depressed) would look, on the inside, like a collapsed suspension bridge with cables (the elastic scaffolding) twisted in every direction and the actual roadway of the bridge (the vocal cords) rendered useless. It is as difficult to try to sing with a buckled suspensory vocal mechanism as it would be to drive over that collapsed bridge.

Fig 03

A throat is truly open when all the suspensory muscles are working freely in balance, the vocal cords are lengthened and approximating well, the tongue and palate muscles are released and all this is fully coordinated with the organ of breathing. In fact, the organ of breathing contributes greatly to the ability of the laryngeal muscles to release properly. In this condition the soft palate is indeed raised, but not at the expense of the surrounding tissues and muscles. The sound is improved by the action because

it occurs in balance with the other parts. We could therefore say that a throat is fully open when we allow the head to be free on the neck---providing there are no other subtle interferences from the surrounding muscles.

Because of the connection between the jaw, tongue and laryngeal muscles with the soft palate, freedom in the lower jaw results in freedom of the soft palate. The arch can widen and lift properly because it is not being dragged down by any stiffness in the muscles attached to it. (The lower jaw and tongue are released by Alexander's whispered "Ah," and the palatal arch widened by the direction, "Think of something funny to make you smile." This is one reason why the whispered "Ah" is such an excellent corrective and restorative vocal exercise.) The head resonators are opened by these releases and the sound is free to be amplified there. This lift and width exerts an important pull upward and backwards on the larynx which is perfectly balanced by the forward and downward pull of the two large muscles attaching the larynx to the chest. (See Fig 02.)

Some people have difficulty with the direction "think of something funny to smile" when doing the whispered Ah.

I have found that these people respond well to the idea of looking at someone with kindness in their eyes, friendliness, and wanting to communicate with them. There seems to be a softening of the facial muscles and an aliveness in the expression which has a very positive effect on the sound and feels somewhat more natural.

What effect does poise and direction of the head balancing on the top of the spine (and therefore poise and direction in the larynx) have on the tone?

First and foremost it helps focus the tone because it aids the lengthening and approximation of the vocal folds. This helps the voice project, sound forward and high, round, full, and more colorful, all of which are qualities held as "ideal" in the singing world.

All the musculature discussed so far plays an important role in "support." That is to say, there is much more to the idea of "support" for the voice than just the commonly held idea of "diaphragm support" or "breath support" or, heaven forbid, "stomach support." In fact, I like to think of the word "support" (in this context) as a word that describes the action that takes place when all the muscles are in balance and working together in harmony. Paradoxically the more you try to support directly, the less results you get.

In Alexander terms, freeing the head and neck prevents the collapse of the vocal suspensory mechanism and ensures a healthy environment in which the tone can be produced. Thus the suspensory and vocal muscles are allowed to reach their proper length, ready to work with maximum efficiency. This is the state the vocal mechanism is in, in fact wants to be in, when it is not interfered with. It is indeed a wonderful effect when nature is enforced in this way.

When the singing mechanism is poised and balanced, free and ready to function properly, the student is then well prepared for a good singing teacher who can hear how and where the instrument needs training in order to balance the many parts to work as a whole. The instrument can only function properly when the whole structure is in balance, especially the critical head-neck relationship.

The breathing organ makes up the other half of the singing instrument. Like the vocal organ, the breathing organ has a suspensory mechanism which needs attention to ensure its poise, balance and direction. It too has to be erected, ready to work, because in most people it is usually collapsed. And in comparison to the vocal mechanism, the musculature of the breathing organ is larger and more powerful---capable of doing a lot of good if in proper condition, and equally capable of doing a lot of mischief if not.

Perhaps one of the most important muscle groups to be aware of in the breathing organ is sacrospinalis (Fig 04). These muscles extend from the back of the skull all the way down to the base of the spine in a series of connecting muscles. It is these long series of muscles in the back which, when encouraged to lengthen by freeing the head, are most responsible for the erection and stability of the spine. When these muscles are encouraged to reach their proper length, the entire torso is suspended, the student lengthens in stature, the intercostal arch opens and widens allowing the

diaphragm to come into position and move freely without unnecessary effort which then permits the breath to enter the lungs easily.

As the head goes forward and up, the tail bone (and with it the pelvis) needs to release in the opposite direction in order for sacrospinalis to lengthen. (See Fig 07) This movement is only possible when the hip joints, knee and ankle joints are free. These joints can only be free when the weight of the body is being carried by the bones of the legs, pelvis and the inside edges of the spine and this entire structure is supported by the earth.

#### Fig 04

These directions are greatly facilitated by releasing the psoas muscle which runs from the top inside of the leg bone, through the pelvis and attaches to the sides of the lumbar spine. It is interesting to note that it attaches at about the same place as the root of the diaphragm, so one can suppose that tension in this muscle, transferred from the legs, will transfer into the diaphragm and cause it to stiffen as well.

#### Fig 05

Behind this pair of muscles (the psoas) lie the quadrati lumborum, rising from the back of the pelvis and attaching to the bottom ribs at the back. Release in these muscles also contributes greatly to the erection of the torso and the suspensory mechanism of the breathing organ.

#### Fig 06

The weight of the head and pelvis pulling in opposite directions is what encourages the sacrospinalis muscle groups to lengthen. (Pulling, in this case, is a physiological action based on a thought, not a direct pull like you might do in trying to open a stuck door). The answering and opposite movement of the pelvis to the head direction is necessary, otherwise it is like trying to stretch an elastic band without holding both ends.

#### Fig 07

As the pelvis releases, the lower abdominal muscles come into play and are strengthened by being taken inward and slightly upward toward the back by the movement of the pelvis. The tonus of these muscles is extremely important because they are responsible for maintaining the position and release of the diaphragm and for the overall lengthening of the body.

It is important to realize, however, that these muscles lie very deeply in the body and it is of enormous benefit to think of the outer layer of muscles softening in toward the spine as one begins to breathe out. This inward movement begins right behind the pubic bone and it is helpful to imagine the movement of the air flowing not only inward but upward along the inside edge of the spine toward the throat and out through an imaginary hole in the top of the head.

It is also paramount that one avoid pumping oneself full of air or forcing the air out with a lot of unnecessary pressure. Too great an air pressure or volume of air will completely destroy the vital connection between these breathing out muscles and the vocal chords. Not only do these muscles connect strongly with vocal chords and help the chords close well, but they also connect strongly with the lips, hence this direction is invaluable to brass players.

It is important to remember that air wants to leave the body. You don't have to force it to go. It really does want to leave simply because breathing out creates the impulse for the next breath to come in. The whole cycle of breathing out and allowing the air to come in by itself is already programmed in our brain. It is what keeps us alive.

I find that if I think of the breath as leaving my body easily and lightly then all the muscles of the lower body - the deep pelvic floor muscles, the lower abdominal muscles and the back and chest muscles

follow the air out. In other words, the breathing out muscles play a secondary rather than a primary role in the process. The breathing out muscles should in no way be allowed to "drive" the air out.

This inward and upward movement in turn frees up the rib cage and allows the full flexibility of movement of it. In that condition the diaphragm is truly released and free. If an Alexander Teacher did nothing else for a singer than guide them to an awareness of the support system (the skeleton) and thereby help achieve lengthening of the back muscles, he will have achieved a great deal.

It is an unfortunate fact that many common ideas about breathing have a devastating impact on the organ of breathing, rather than achieving increased freedom of it. Many people are taught to breathe in by pushing the lower abdomen (especially the area between the belly button and pubic bone) down and out with a combination of breath pressure and distention of the dome of the diaphragm. It is done in a mistaken attempt to "breathe low" and to "support," and seems to have evolved as an answer to breathing too high up in the chest and raising the shoulders to do so.

Such low breathing results in an over-use, collapse, and distention of the lower abdominal muscles, and results in a severe collapse of the torso and the diaphragm, a pulling in of the lower back, stiffening in the pelvic muscles and legs, and a heavy shortening of the muscles at the front of the body. This makes any lateral movement of the ribs impossible, and such misuse has exactly the opposite effect of what is desired.

The situation becomes more complicated because once the lower abdominal muscles are pushed outward on the in-breath, they then have to be pulled inward as the singer begins to sing. The whole process becomes full of effort and involves more and more "doing." The semi-reflex action of the in-breath cannot work and then the singer has to make considerable effort to get the next breath. It is a time-consuming and totally inefficient way of using the breathing organ.

If we would just stop a minute and think, it is clear there is no way breath can enter the area behind the lower abdominal muscles. The intestines, the bladder and, in the female, the uterus and ovaries lie here. The breath goes into the lungs which are inside the rib cage--a long way from the lower abdomen. Of course, there is movement in the lower abdomen, as a result of the air coming into the lungs and the downward movement of the diaphragm, which slightly displaces the organs in the abdomen. Left on its own this causes no difficulties with the general poise of the mechanism. However, when this action is exaggerated and deliberately interfered with, complications set in causing loss of poise and direction.

In fact, I would go so far as to say that such distortions in the breathing rob one of the true support from the earth because in order to make such a distortion one has to stiffen and fix the body and, in doing so, one interrupts the finely tuned messages of support which arise from the earth and travel through the bones, starting with the feet.

Of course, there has to be a release of the lower abdominal muscles and a connection right through to the basin of the pelvis; otherwise, the diaphragm cannot fully release. However, this release and connection can happen in a much more efficient way, with far more effective results, than crudely pushing downward and outward with breath pressure and the diaphragm. I find that thinking of breathing into the ilio-sacral joint, (where the spine and pelvis meet) (Fig 08) and thinking of releasing and widening that joint, ensures that the breath is taken low and the diaphragm is fully released, but without the horrendous distension and distortion to the front of the body.

#### Fig 08

Each one of these problems is caused by a misconception that negatively influences how the system is then used. What we want is the two opposing movements of the head going forward and up and the tail going forward and down (which helps anchor the stem of the diaphragm, attached as it is on the inside of the lumbar spine) and to encourage the back to lengthen and widen so the ribcage is free and the floating ribs can move. Alexander called this "direction," and when it happens the connection and opening to the lower abdomen is immediately available with little effort and maximum effect. With these directions active, one can then look at the other five main sets of breathing-out muscles: the latissimus dorsi (two large muscles in the back),

Fig 09

the rectus abdominus, which runs from the pubic bone to the chest,

Fig 10

the internal obliques which run from the back and sides of the pelvis up over the ribs and down into the groin,

Fig 11

the external obliques,

Fig 12

the upper-inner chest muscle (a butterfly-shaped muscle under the chest),

Fig 13

a) is the attachment of the diaphragm to the front edge of the rib cage and the intercostals (in between the ribs).

All these muscles play an important role in helping the singer breathe out. The extent of the breathing organ goes far beyond the one set of lower abdominal muscles which so often are the only ones to receive any attention. Unless all the muscles involved are working together then any one set will have to work very hard indeed, and the entire organism is thrown out of balance. When all the muscles do work together, singing becomes a fluent, easy, exhilarating event for both performer and listener.

If you want to breathe in properly you need to attend to breathing out fully. If you want to breathe out fully, then you need to have at your disposal such a use of the entire breathing mechanism as I have just described. It is vital to remember that none of this requires "doing" but it does clearly involve intent. You cannot expect to stand there with nothing happening and hope that somehow it will all work. You need to be clear what it is you want, really desire it to happen, and then make sure nothing interferes with it.

Working rhythmically is an excellent way to activate the mechanism without "doing," as the muscles respond easily to such movement. If the out-breath is accomplished fully and rhythmically, using all the muscle groups outlined here, and there is no stiffening of the neck, shortening in stature, or pulling down in front, then the in-breath can happen as a reflex action to fill the vacuum created by the out-breath. This is how it is designed to work in the first place. You are then working fully with nature and what is more, you are strengthening it. Treated this way the breathing organ responds favorably, cooperates, and gives the singer the impression he has to do less and less to get more and more. The in-breath then encourages and stimulates even more lengthening in the torso and the whole thing becomes self-generating. I would again repeat that a large volume of air is not wanted nor is it helpful. The most efficient way to train the breathing organ is to concentrate on breathing out the air which accumulates in the bottom of the lungs --air which you cannot feel whatsoever.

If there is enough lengthening and widening in the body then it is possible to breathe out this last bit of air in the lungs. This exercise stimulates the deep lying muscles to work and it is therefore possible to train them to a very high degree.

At the end of the outbreath, maximum attention needs to be paid to the direction of the body and to the fact that the weight of the body is being taken by the feet, heavy leg and pelvis bones, and the spine. If this support mechanism is working it will be very easy to release the breathing out muscles of the chest and back. This release is all that is needed for the air to come back in.

Again, I stress that all you should feel is the release of the muscles. It is not necessary or desirable to feel a great inward rush and heavy volume of air. If I actually "feel" the air when it comes into my

lungs, or if I feel "full" in the stomach and lower abdomen, then I know I've interfered with the process and have actually "taken" too much. It is then very difficult to expell all that unnecessary air and the automatic cycle is broken.

This was demonstrated very clearly to me while swimming one day. I was busy doing a very easy breast stroke, lying more or less horizontal in the water (as opposed to swimming the breast stroke with the pelvis and legs lower than my head) and allowing my head to break to the surface with each return of my arms toward my chest (this action actually lifts the head clear of the water).

I had just done a very long exhale under water and when my head cleared the water, I actually "took" a big breath. The result was immediate. I lost all co-ordination between my legs and arms.

I stopped swimming, waited until I could get all that breath out, and then I began again and this time I simply let my head come clear of the water and released the breathing out muscles. I felt no air coming in whatsoever yet, as my head went under water for the next stroke, I had more than enough air to expel.

What I have described up until here is a very good way of waking up the breathing organ prior to singing or playing. But it is very important to state here that during singing and playing a wind instrument, a second stage has to happen. The breath needs to be stabilised.

If one is going to stabilise the breath, then one must first make very sure the muscles involved are fully awake and flexible. What all too often happens is that performers try to stabilise the breath while the musculature involved is stiff and/or in a state of collapse. The result is a gross misuse of the instrument and is highly inefficient.

The best Italian schools of singing call this stabilising "appoggiare la voce". Professor Husler spoke of this in every lesson. He also used the image of a large pedal descending through the body during singing. This, and "appoggiare la voce" have the effect of stabilising the emission of breath during singing (or playing). Other schools say "think of breathing in while breathing out" or "inalare la voce" (inhale the voice). All these instructions are meant to bring about a stabilising of the breath, of managing the breath, during singing. And once again, it is important to emphasise that one is not intended to "do" any of this by pushing down on the diaphragm. Provided the instrument is fully awake and flexible, the thought of any of these instructions will be enough to ensure that the breath is managed. (See also Breath Management 2)

When this happens, and only when this happens, the movements in the organ of breathing and the vocal organ coordinate and it can then (and only then) be said that the tone, the voice, is "supported." Stiffen the neck, legs, feet or rib cage, over breathe, use too much breath, and the coordination is interrupted, resulting in diminished support. Support results from all the necessary muscle actions working together rather than from a direct action of any one set of muscles.

I have deliberately left any detailed discussion of the diaphragm until late in this paper for a number of reasons. I wanted to establish very clearly that if the structure in which the diaphragm is housed is properly maintained, then the diaphragm will do what it should do by itself in response to the emotional and physical demand placed on it. There is absolutely no need for "diaphragm strengthening exercises"--indeed, there is no need for so-called "diaphragmatic breathing"--both terms which ensure, in their very terminology, "doing" in the Alexander sense. By "doing" I mean any direct interference that destroys much of the playful, delicate, strong action of the diaphragm when it is free.

The breathing-in action of the diaphragm is so strong, so insistent, it will pull the body out of shape unless the scaffolding around it is well activated and maintained. That the diaphragm plays a most important part in the act of singing is without question and, from the point of view of good use of the body, it is far better to learn to leave the poor thing alone and concentrate on the "means whereby" we can get the most effect from it.

The diaphragm is a very large, dome-shaped muscle that fills the rib-cage front to back and from side to side.

The stem of it is anchored on the inside of the lumbar spine where it rises to the uppermost dome quite high in the chest (at about the fourth rib or about nipple level in a male). The bottom edges of the lungs and the heart rest on top of it. It flips over to attach on the inside front edge of the ribs just above the point where the ribs separate, and the bottom edges attach to the lower ribs. (Note how the stem of the diaphragm is actually made up of separate sections thus giving the muscle enormous flexibility. It is not a solid, one-piece structure as is often believed.) There is connective tissue from the top of the diaphragm to the back and neck muscles, which helps suspend it from above.

Fig 15

What is important in the above diagram is to realize just how much the diaphragm is suspended, supported, from above by ligaments (colored blue ) which are attached from the top of the diaphragm (colored pink) upward to the spine and front of the chest. The whole structure looks rather like a tent which is suspended from outside. It is obvious that if one is standing straight and lengthening the spine then the dome of the diaphragm will be raised to its proper position in the body and will therefore be free to work. The opposite scenario is when the spine is collapsed, bent, which results in the chest falling in on top of the diaphragm, cramping it and hindering its range of movement.

Just as the diaphragm can be sucked down out of position and distended by the lower abdominal organs in a state of collapse, so the diaphragm can push these organs out of position and cause a collapse from above if these connective tissue attachments are not erected. Freeing the head on the neck to allow the back to lengthen and widen establishes this erection in the same way as it allows the erection of the elastic scaffolding surrounding the larynx. Therefore, an avoidance of both states of collapse of the diaphragm is what an Alexander teacher helps bring about in the singer by helping him lengthen and widen the back.

When these connective tissues are collapsed, the lower abdominal muscles become distended and over-react to correct the imbalance. Furthermore, such action actually promotes a pulling back of the head on the neck.

The singer knows, instinctively, that some part of his instrument is not in balance and he makes extra effort, by "doing," to compensate. I think the wording found in some passports is very apt when considering the diaphragm. We should "allow the bearer," (in this case, the diaphragm) "to pass freely without let or hindrance, and to afford the bearer such assistance and protection as may be necessary."

The diaphragm is much more than a mechanical shifter of air. It is, above all, a muscle of emotional expression. Everyone has had experiences of just how infectious it can be when someone nearby suddenly and spontaneously laughs. We usually laugh right along with them. Why? Because there is a physiological response in the diaphragm that causes it to react in sympathy with what is being expressed by someone else. This brings us back to Rodd-Marling's definition of singing, and the importance of wanting to express emotion. If the diaphragm is thought of only as a pump then such thinking will greatly diminish the function of it and limit its invaluable contribution to singing. The singer, indeed, then will have to develop a breathing technique to compensate for the lack of spontaneous and reflex action in the diaphragm.

When singing, it is important that the tonus of the diaphragm muscle be high--in other words, we want this strong and vital muscle as our ally. K. Bucher (quoting W. R. Hess) says in his book "Reflektorische Beeinflussbarkeit der Lungenatmung (Vienna, 1952) : "If the volume of air (in the lungs) is low then the diaphragm's tonus is high." Conversely, if the volume of air in the lungs is high then the tonus of the diaphragm will be low. In other words, there is a good reason a singer should not take in great amounts of air. Not only is so much air unnecessary, it weakens the diaphragm and thus interrupts the coordination between the diaphragm and voice. As well, too much breath weakens the ability of the vocal cords to close, resulting in a very poor tone. The method of breathing I mentioned earlier (where the lower abdominal wall is pushed down and out on the in-breath) almost guarantees that there will be too much air in the lungs and therefore too little tonus in the diaphragm.

Left to its own devices, the larynx draws the amount of air it needs from the lungs and regulates the emission of it. The amount of air needed is quite small. Mattia Battistini, one of the last great

exponents of bel canto said: "I take in no more breath for singing than I do when smelling a flower." The English soprano Maggie Teyte, who had quite a small but beautiful voice, always said, "Never sing louder than lovely," advice that guarantees the singer will not over-breathe. Trying to take a deep breath the wrong way is the quickest way to destroy the integration, balance and poise of the entire mechanism.

Whenever possible, when time permits during singing, the singer should be encouraged to allow the air to enter through the nose. For one thing, it prevents too much air being taken in. From a health point of view, the air is warmed and cleaned as it enters the nose and thus affords a natural protection to the lungs. In addition, breathing through the nose is the most efficient way of releasing the contraction in the muscles surrounding the ribs when breathing out. If the next breath is to enter as quickly and easily as a singer needs it to, this tension must be released at the end of the out breath, and released quickly.

When thinking of allowing the breath to enter the nose, imagine the nostril openings are at the inside edges of the eyes on either side of the nose. Starting at this high point, allow the points to widen and imagine that the air enters at this level. The air enters very calmly and easily because the nostrils are widened and not restricted by any collapse. You will not be tempted to over-breathe and take in too much air, the muscles around the ribs release quickly, the breath may feel slightly cool and refreshing, and it will be easier to maintain your direction and poise which, as we well know, establishes the shape of the breathing organ.

It is important to remember that it is the release of the muscles around the rib cage (which allow the diaphragm to release and descend) that draws in the air. Be very sure not to look for release of the muscles around the rib cage by pushing outwards on them with a large intake of air.

In spite of these benefits of breathing in through the nose there are going to be times when it is almost impossible to do so--when singing certain phrases in some of Bach's arias, for example. So many of them are written as if the voice was a string instrument that is not dependent on air. (Even so, string players also need to learn to breathe out while playing). In such cases, there is no other way to let the air in except through the mouth. Providing there is no loss of physical direction, and the singer has trained the breathing organ well so there is no gasping or sucking in of the breath, the occasional breath through the mouth should not cause much difficulty. Gasping for breath is almost always the result of loss of direction in the body.

There are even times when it is effective to allow the listener to hear an intake of breath during singing. This is when the singer wishes the audience to feel the emotion of what is coming in the next phrase. When done well, it is not gasping or destructive but very, very communicative.

To sum up, the whole breathing organ joins with the whole vocal organ to form the singing instrument and produce sound. The many parts of both need to be awakened, developed, and maintained in an optimum condition in order to function efficiently, well, and for many years. The only way these two vast mechanisms can hope to coordinate properly is via a strong desire to communicate emotion and express beauty. There is no doubt whatsoever that the entire process is greatly aided, and kept in good working order, by staying in touch with the support mechanism of the bones of the skeleton thus freeing the head and neck and allowing the back to lengthen and widen.

If you proceed with the clear understanding of how the voice works--that it is designed to "sing," and that it is all set in motion by the desire to communicate and express beauty--and you combine this understanding with a balanced "use of the self," a lot of the problems you meet will sort themselves out.

In the process, you will understand more and more that we are, indeed, born to sing.

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