

The Generous Voice

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I would like to begin with a story which I first heard during a talk that Walter Carrington gave to the students at Lansdowne Road in about 1991.

In France at a Benedictine Abbey , following the completion of the Roman Catholic Second Vatican Council in the Winter of 1965, the new Abbot altered the internal rule of the community so that the centuries old Benedictine way of life was changed. This caused some dissent and distress amongst the monks some of whom wished to retain the traditional Latin, others who would maintain the existing order and yet others who wanted to revolutionise everything.

Finally the 'revolutionaries' won the day and everything was changed. They even eliminated chanting from the daily schedule. Traditionally the Benedictine monk chants for 6-8 hours a day. The new Abbot was able to demonstrate that chant serves no useful purpose, and that without it they could capitalise on the time for other productive occupations.

This new regime became their way of living and gradually as the days passed the monks started to become quite sluggish. They became more and more tired until finally they were all so tired that they held a meeting to try and find out what was causing their fatigue. They looked at their 'time table' and saw that their night vigil and their work "deviated excessively from the norm of other men. They seemed to live too differently from the rest of the world because they seldom slept". They decided that they should all go to bed early and wake up , like everyone else , only when they were no longer tired. Well it seems the more you sleep the more tired you can become so it was for the poor Benedictines who became more tired than ever. At this point they called in medical Specialists to help them try to understand what was happening. A procession of doctors came and went to no avail, the monks were as tired as ever. A famous French doctor arrived at the conclusion that they were in this state because they were dying of starvation the reason? They were mal nourished as a result of being practically vegetarian (they ate some fish from time to time). Despite the fact that Benedictines have been Vegetarian since the 12th century the doctors prescription was meat and pommes de terre like the rest of the nation. Things however only got worse.

It was at this point that Dr Alfred A. Tomatis was called by the Abbot in February of 1967. When he arrived he found 70 of the 90 monks slumped in their cells, as he would later describe them, like wet dish rags.

By November that year practically all of them had recovered sufficiently to take up their former lifestyle of prayer, chanting, a few hours sleep and the 'legendary Benedictine work schedule'.

I am sure it probably doesn't take too much detective work for you to realise that the major missing ingredient in the Monks day that made the difference between the new and the old schedule was in fact the so called non productive chanting.

A further clue is that Professor Tomatis was an Ear Throat and Nose specialist.

How he arrived at a cure for these monks is central to the explanations, premises and experiences that I am exploring in this talk.

Tomatis's father Umberto Dante Tomatis was a famous Opera singer, a major performer at the Paris Opera. Alfred Tomatis first encountered the music of Mozart as a child when his father was singing the part of Sarastro in the Magic Flute. In his Autobiography he describes his encounter with a Dr Carcapino in 1929 when, aged 9, he was suffering from a seemingly undiagnosable fever (because it emerged later he was suffering from three illnesses at the same time). "I don't know what's wrong with him. I must search for the answer" said the good doctor. These words were to inspire Tomatis to become a Doctor himself and to search for what he did not know, just like Dr Carapino. Not unlike a certain FM Alexander whose own encounter with a doctor led him to respond to the magical words "I do not know" by developing a world renowned and celebrated Technique of Living.

It is not surprising that this search for "what he did not know" should lead Tomatis first of all to emulate this man to become a doctor and then to specialise in ENT Ear, nose and throat close to the realm of occupation of his beloved father who had gone to extraordinary lengths to ensure his son would have the education that enabled him to train as a doctor. Very early on he had been aware of certain difficulties encountered by singers who were his father's friends . French medicine at that time was slow to offer solutions. Here was an area worthy of research, an unexplored region of much not knowingness.

His first official research project following his army years during the second world war was a study of occupational deafness in aircraft factory workers.

This led him to understand that the opera singers he was seeing as patients who were suffering problems with their voices had actually managed to deafen themselves and this had produced a detrimental effect on the voice and range that they could produce in performance. In fact the longer a singer practiced his profession the deafer he became. These singers were damaging their ears because they were their own first and nearest listeners.

A jet engine registers 132 decibels on the ground. Some of the singers that Tomatis tested were registering on his sonometer 110, 130 and even 150 decibels when they sang at full strength. 130 decibels actually represents 150 decibels inside one's own head. He points out that though the energy of an opera singer is not comparable to that of a jet engine, the intensity of the sound is the same.

To sing well the singer must have a special perception of the sound he is producing. The poor quality of this "self-listening" was responsible for his patients' difficulties. From then on he abandoned the accepted theory that the larynx was the principal instrument of singing because it was the ear that was fundamental to the problem in hand. "One sings with one's ear" he stated.

Further to this he identified that voices such as tenor, baritone and bass all sing in the same frequencies generally in a band between 800-3 or 4000 hertz. They all have the same raised overtones. What distinguishes them is their openness to low notes. The difference is that a baritone will add lower notes and a bass lower still so a bass is actually at the same time bass, baritone and tenor.

At this stage in 1947, Tomatis could verify that the loss on the subjects listening test always corresponded to a loss in the frequencies he could utter.

The same can be found in languages. English and French for example use the same base tones. These range from 125 to 250 Hertz. The overtones, however, change from language to language. English uses many high pitch sounds, ranging from 2,000 to 12,000 Hertz. These high pitch tones can be distinguished in the S's (as in **SeSSionS**) and in the 'TH' sounds (as in **TH**anks). French, on the other hand, hardly ever uses such high pitched sounds. For example, the S at the end of a French word is rarely pronounced.

Our ears, by constantly listening to ourselves and to those around us, are most attuned to the frequencies of our native tongue. For the foreign frequencies, we are, so to speak, deaf. And here comes the connection with the discovery of Professor Tomatis: because we cannot hear foreign tones properly, we cannot pronounce them correctly. and perhaps find it difficult to remember them.

The best way to learn a foreign language is to go and stay in the country because there we are immersed not only in a "linguistic bath" but also a particular listening atmosphere which by modifying the way we listen helps us to adapt the way we speak. In his autobiography "The Conscious ear" Tomatis relates that one can walk in Summer in the Languedoc region from Toulouse to Marseilles and notice that the song of the cicada that weaves a permanent background of sound appears to become more and more nasal the closer one gets to Marseilles. The enchanting idea that these little creatures should have varying accents or dialects is of course not a reality. It is rather us that have passed from one type of atmosphere to another. The filter that controls

our hearing is modified and this brings about a change in the conditions we take in. Francescetti the violinist told Tomatis that he would never go back to play in Nice. "I don't know what happens there, but my violin refuses to play". Tomatis believes that it is not the acoustics but the atmospheric elements and the nearness of the sea that bring about an impedance unfavourable to music. Nice being the city of his birth perhaps we can readily accept Tomatis's account.

Producing sound makes the outside air vibrate. To listen to someone else singing or speaking is to enter into "a partnership of vibration. "The listener who is situated in this air space will find himself 'sculpted' by the vibrations.

Sound not only affects the ear it, in Tomatis's words, impregnates the whole body. "We are only nervous systems" he says "covered by a somatic body stocking". He proposes that the form of the body may be seen as a consequence of speech, and that as we live in sound and particularly the sound produced by speech, this "permanently imprints a mass of small keys on the peripheric nervous system". he goes on to state that "depending on which words are used certain parts of the body will be altered "The verbal flow touches certain surfaces including the face, the front of the thorax and abdomen, the back of the right hand and between the index and the thumb as well as the inner side of the lower limbs especially the knee and the soles of the feet.

Speech gradually sensitises the sensitive areas which can detect acoustic waves. In order to provide the largest possible area, we must be in a vertical position to be able to master speech. Uttering a sound consists of causing the exterior air to vibrate thanks to the vibration that makes the body sing. (Plato and Aristotle said that singing or speaking meant uniting the exterior and interior air to vibrate in harmony).

If we can accept this idea of the image/form of the body being the result of speech, (having been sculpted) we could also envisage remodeling the body by improving speech. Tomatis's investigations lead him to the interesting conclusion that "The cutaneous (skin) sensitivity and the quality of control of phonation (vocalisation) are in direct proportion to each other". In "changing an individual's voice it is possible to modify the structure of his body by giving him a different auditive perception of his environment" (being able to listen differently). This remodeling (of the self) can also be extended to an audience. A good singer can inspire & brighten his audience who will, after a while, breathe as he does and look more alive. On the other hand, a poor singer will make us literally cringe and our throat muscles will tighten. We are shaped by both the sounds we emit ourselves and those uttered by others. In both cases it "concerns sensations that are profoundly experienced by sensorial neurons."

For him the form of the body is the consequence of the utilisation of the self-regulated by the voice and the ear. The influence of the atmospheric environment plays an important part as does the influence of the other in the dialogue. If, however, a damaged or compromised ear blocks sound waves coming in at a certain frequency a corresponding part of the brain or body will not receive its proper sonic message. Tomatis believes that the ear controls which frequencies reach the body. Tomatis's aim is for the body to be literally in harmony with everything it is part of. Any distortions will make it difficult for a person to adapt to the world and himself. His definition of a good body form is "one that allows one to be oneself down to the last atom".

The genius of Tomatis's research, discoveries and inventions was to create a method and machinery to facilitate the procedure whereby a body form that had become distorted could be literally remodeled. This he does through the adjustment of the relationship between the listening ear and the voice so that the sound vibrations emitted promote the health and wellbeing of that individual. This improves their listening and vocalisation skills and enables them to fulfil their potential for harmonious living.

It was this method that he used to bring about a normalization of the life of the Benedictine community who we met at the beginning of this story.

So far I have offered the premises that we can only speak what we can hear, that it is the listening ear which affects the quality of the voice and in turn this voice influences the body structure through the so named somatic body stocking as well as affecting those with whom we are in communication.

I have called this talk "The Generous Voice" because this is the area which as an Alexander teacher and trainer fascinates me. Often students, and I was certainly one, feel a trepidation and anxiety about opening their mouths in front of others to speak, whisper or horror, sing! Gradually I have tried to shift the focus away from result, end gaining, wanting to be swallowed up in a hole rather than expose an "inadequate" voice, to the idea that we have a responsibility to use ourselves in the best way possible to support this precious voice because it has such a profound influence on those around us, and in our context of course our pupils. I emphasise also how this then promotes our own wellbeing and as I hope to explain, that it is in the development of this Generous voice where I find the Tomatis Effect meets the Alexander Technique at an exciting juncture.

In order to address the malady and fatigue of the monks, Tomatis literally set about re-awakening their ears. To do this he used first of all a machine that he had invented, the electronic ear. a device that uses filtered sounds that are listened to through ear phones. Usually music is used either Mozart or Gregorian chant which is rich in harmonic overtones and contains all the frequencies of the voice spectrum a bit like a Dulux colour card. The electronic ear addresses the muscles of the middle ear, more particularly the stirrup muscle

(stapedius) and the hammer muscle (tensor tympani). The Stirrup is an extensor muscle and at 6.2mm is the smallest in the body as well as being the last evolutionary muscle to appear.

Paul Maudale explains that traditionally an active role is assigned to the ear only in extreme situations. These muscles help to protect the ear from loud sounds at a dangerous level. Although audiologists now recognize that the stirrup muscle can also facilitate sound discrimination, Tomatis takes this much further assigning an automatic attuning function to these muscles such as is used to 'tune' into the frequency range of our own language. Children can become bilingual because if they are exposed at an early age to two languages the ear will not have yet closed its focus to a specific sound range. Musicians often come from a background of musicians possibly because "their ear has always been exposed to music allowing their ear focus to embrace the full range of the musical ear."

During treatment with the electronic ear the sound stimulation that comes through one audio channel on the earphones relaxes the muscles, the other channel stimulates the muscles (this brings about the correct way of hearing) This alternation of stimulation to tension or relaxation provides the hammer and stirrup muscles with a 'physical work out!' Because the monks had stopped their long hours of daily chanting their voices had not been available to exercise these little muscles to any great extent. The same nerves that control the middle ear muscles are also involved in voice production. The facial nerve innervates the muscles of the face which include the lips, necessary for clarity and intelligibility of speech. The same nerve also affects the stirrup muscle. The trigeminal nerve is linked to the hammer listening muscle as well as the muscles that we use to chew and close our mouths.

So stimulation of these muscles comes not only from external sounds but from the use of our own voices. The double neural link ensures that our own voices are inextricably involved with the functioning of the ear both in its listening role and the vestibular role where it controls the fight against gravity through balance, promotes the tonus of the body and before the visual system, first established in the brain a spatial dynamic. So the "aurally depleted" slumping monks would gradually have found their verticality again. A different posture would have affected the way that they heard or received the sounds of their own voices which is significant because there is a further and very important twist to this tale.

First let me summarise

So far I have offered the premises that we can only speak what we can hear, that it is the listening ear which affects the quality of the voice and in turn this voice influences the body structure through the so named somatic body stocking as well as affecting those with whom we are in communication.

To add to this, there is a link between the function of our ears in their vestibular and listening roles with our own voices and our verticality.

(Tomatis, in fact observed that the word “Malady” etymologically implies bad posture, and suggests that his listening “cure” is nothing more than the reversal of this).

What is of particular significance in the story of the Monks recovery is that once they had made an initial recovery with the help of the electronic ear they successfully took up their daily 6-8 hours chanting which once again supported their daily prayers, work, night vigils and little sleep. Gregorian chant would have been used in the first stages of their treatment and Gregorian chant was what they continued to sing in maintenance of their collective good health. (It is perhaps significant to note as Tomatis does that those Abbeys that gave up chanting have died out.)

In what is generally part of a Tomatis treatment programme the monk would hear his own reading voice as he speaks into a microphone, through ear phones with one channel forwarding the sound as his own ear would hear it and the second channel filtered allowing him an improved hearing especially of the high frequencies. “This switching back and forth between channels being effected by the way the subject controls, consciously or unconsciously the frequency and intensity of his voice.”(Paul Maudale) By treating the monks with the electronic ear the muscles of the ear were trained to function correctly leading the mouth and muscles of phonation to react by also functioning properly.

This is the moment to introduce Tomatis’s theory on hearing which I find even more compelling when I learned that Whales hear by conduction of sound through the skull bones.

A few facts on sound conduction before I continue:

The speed of Sound travels through the medium of air at 331 metres per second
through Water at 1,435 metres per second
and (the easy winner) through Bone at 5000 metres per second, about 15 times faster than through air

Dr Bradford S. Weeks has explained in more technical terms Tomatis’s claims:

“That hearing occurs primarily as a result of sound conduction through the bones of the head, and is not due to sound conduction through the ossicles of the ear”. He goes on to describe that Tomatis feels that the primary site for sound transmission and hearing is that part of the skull bone that goes from the tympanic sulcus (a groove in the skull bone at the point where it is attached to the tympanic membrane) along the petreous bone of the skull. (Petreous meaning rock like). The petreous bone is a temporal bone that encloses and protects the inner ear. It is the densest bone in the body and the only inert bone that remains unchanged from the time of birth.

We can assume therefore that it is ideally suited for sound conduction.

In his description of Tomatis's theory of hearing Dr Weeks describes the sequence of events when the sound waves hit the tympanic membrane (The ear drum). There are cells of Corti attached to the basilar membrane, these being the sound receptor cells that send sound wave messages to the brain. When the sound is excessively loud or transmits too much vibrational energy for these delicate basilar membrane cells, the extra vibrational energy "splays out to the fluid in the cochlea of the inner ear, which bulges out the oval window," this in turn will push on the ossicles of the middle ear (the pressure release valve). "This causes tenting of the tympanic membrane, with the resultant effects already mentioned."

The evidence to support this theory of audition comes from the fact of physics (already mentioned) that sound travels with greater accuracy through a dense medium (such as bone) than through a less dense one (air, water, or cartilage). Tomatis believes that as fluid usually has a protective role in the body, as protection of our joints the fluid in the cochlea of the inner ear is more likely to have this traditional role in protecting the ear, for which it is well suited, than to be engaged in sound transmission, (for which it is a poor conductor). Dr. Weeks goes on to say that some of those opposed to the bone conduction theories feel that the soft tissues found in the skull would lessen the fidelity of the sounds traveling this route. He concludes however, that the bones beside the eardrum "receive vibrational energy directly from the eardrum". For an acute sense of hearing we need sound waves of intense force. These sound waves then impact on the delicate cells of Corti, sensitive receptors of the sound wave energy. The energy of the sound waves is translated by the cells of Corti into electrical energy that can be interpreted by the nerves and brain. Thus guarding the sensitive cells of Corti within the inner ear becomes a very important role for the middle ear.

Paul Maudale expands on this, "When you decide to talk, your brain sends the message of your intention to the systems in the body that are responsible for voice production." Most importantly from Tomatis's point of view when this stimulus propels the air from the lungs through the trachea, hits the larynx which starts to vibrate and produces a sound, the vibration is then transmitted to the spinal column. This vibration is spread out throughout the whole body. "The inner ear-surrounded by the bones of the skull- picks up this vibration by bone conduction and relays it to the brain." This sound vibration is also projected in the direction of the resonators before leaving the mouth as spoken words.

"Once out the sound reaches the ears via air conduction to once again be sent to the brain." So the sound of your own voice goes to the ears by these two routes- bone and air conduction - There is a delay interval between the time the bone and air -conducted sounds reach the brain. This allows for two levels of control. As the bone conducted sounds travel faster they arrive first and alert the brain to focus on a specific frequency range which the radar of (our friend) the middle ear then targets. These same middle ear muscles

and nerves that are part of an ear brain body neural loop. The air conducted sounds follow later passing through the same frequency channel that has been regulated by the middle ear. As the position, and relative tensions of all organs, cavities and muscles involved in voice production are, in Tomatis's terms, controlled by the ear the body is prepared and can take the time to fine tune the articulation: pitch, volume etc, of the forthcoming sounds. Apparently we produce on average 13 language sounds (phonemes) per second so our busy ears have lots of work to do! This taking time for the regulation of sounds we make is automatic and is so rapid that it is virtually impossible to perceive, but it is there. Tomatis states that the sign of a good singer will be his ability to "pass between a good auditory receptivity and self listening. He does this automatically but it is not for him unconscious. He is aware of it. "

So it is not simply that we can only speak what we can hear. It may be that the voice cannot reproduce what the ear perceives because there is a fault'down the line' as it were. At one time we learned to use our body-to emit the sounds of our voice and language. If there was any interference in this learning process we can have established faulty "old habits" deeply embedded in our way of speaking that may or may not be obvious to the speaker or 'audience'. Although a programme of treatment using Tomatis's electronic ear can address this there is much that we can do ourselves to improve the control of our own voice through listening. We can use our own voices to waken up sleepy middle ear muscles, and as we will see promote our energy through the sound of our own voice.

As Alexander practitioners we are already familiar with the poise that Tomatis seeks to promote in his ear re-training programme.

Now we know that this bone conduction does not occur only in the bones of the skull but transmission of the sound can flow through the bones of the whole body if there is verticality and the possibility of the voice box vibrating close to the spine. Tomatis achieves this by asking his subject to adopt what he calls a listening posture. This includes: sitting so that the parts of the body with the most nerve endings are exposed, such as the palms of the hands, the soles of the feet etc. He particularly stresses verticality emphasising that it is impossible to arrive at good language or to stimulate the brain to full consciousness without it. In seeking 'good posture' he asks for the back to be erect and the head to be leaning slightly forward, chin down, a right angle between the neck and the head gently nodding the head as in "Yes".

A similar result will, I believe, be greatly enhanced by using inhibition and direction to go up , to balance and to leave our selves alone. Application of the Alexander Technique to the recommended self help exercises is a tremendous combination and easily within reach of the Alexander student seeking to develop a Generous Voice.

Receiving a lesson from a singer and Tomatis practitioner I observed with great delight, while engaged in humming, a vibration in my knee caps. Placing hands on the feet of a student at L'estudi in Barcelona while she was singing I felt them vibrate. Now these are not unique experiences and many of you will have enjoyed similar sensations. We may not however have stopped to consider that this vibration, coming from our own voice was actually enlivening our whole being, that the vibration from our own voices delivers a healing and energising factor from which we benefit from crown to toe. The vibration through bone conduction is a grand stimulus to the vagus nerve which has such a close link to nerves of the ear as well as its own relationship to the organs of the voice including the tongue, pharynx and larynx. It tracks through the body delivering to the various organs its qualities and vibratory information like a splendid postal system.

That our community of Monks who are anyway a silent order should become energised and recover their former singing and chanting owed this not only to the adjustments made to enable their ears to tune into the high frequencies needed to sing in harmony with each other but to the requirement now met to supply their brain with the necessary 3 and a half billion stimuli of sound per second for at least four and a half hours a day needed by a human being to stay awake.

The primary function of the ear is to energise the brain. Tomatis reminds us that:

“It is thanks to the ear that the external stimuli are able to charge the cortical battery.” He observes that the neurological field becomes lit up, charged by stimuli. These stimuli that arrive via the skin as well as the joints and the muscles and the multiplicity of things leading into our bodies from the outside need, however, the ear to translate their potential to the brain. “And so we’ve come to realise that the skin is only a piece of differentiated ear, and not the other way round. “

So now we find that the ear has three functions: To assure balance, to analyse and decode the sounds from outside and the third, especially applicable to our Benedictine monks, to charge the brain with ‘electrical’ potential.

High tones are active in this dynamisation, low tones by contrast activate energy without recharging the cortex, affecting the body rather than the brain draining the batteries without recharging them.

There has been much speculation about the sacred geometry of the design of Ancient cathedrals and churches, What may not be appreciated is that because high tones occur higher up in a space, reverberation from a high ceiling will be more efficient.

Singing in a cathedral where the sound is drawn up can lend our voices wings but trying the same with a ceiling just above the head can be a dispiriting experience as we do not receive our sound back with any efficient reverberation. Just like the cicada's song or the unhappy violin, full spectrum sound production also depends on beneficial acoustics where sound echoes and feeds back to the instrument of the ear.

Tomatis had observed that in old churches there were often a number of holes cut in the walls. To cut through the wall at that point you would find, inserted in the wall amphora, These enable the 'dephasing' (literally the putting out of step) of the low tones (as though the vessel would capture the low tones) and thus the accentuating of the high tones. (Tomatis notes that today all these holes have been filled up).

One last word about old churches. You may have already visited some monastery churches and noticed that some have elaborately carved misericords on the underside of the upturned seats of the choir stall. A monk standing and chanting would have rested his sitting bones on this. Not only would he find it easier to maintain a lengthened spine and prevent tension in his legs and ease the long hours on his feet but he could promote and monitor the overall vibration through bone conduction from his voice through his skeleton.

Tomatis recounts the story of meeting the great Tenor, Campagnola, a friend of Caruso's who used to take the stage when Caruso was not available to perform. He was 78 years of age and told Tomatis that he had not slept since the age of 26. He spent his nights painting. For over 4 years, at the singer's invitation, Tomatis visited him at any time of day and night and never found him asleep! (It may be relevant to note that Picasso said of Marc Chagall "When he paints you can't tell if he is asleep or awake, he must have an Angel in his head somewhere"!)

A great singer with 'correct' posture often shows an energy which is not only long lasting but also is often very "exuberant! They would find it difficult to follow their career if they were not themselves energised by the sounds they produce."

And it is here that we come to the final and a central piece of this talk's jigsaw. (Because I always put a jigsaw together from the outside edge in!)

What Tomatis discovered very early on in his researches with Opera Singers is that there is a so called leading ear. That when we listen we are designed to receive that information through the right ear first. That as Tomatis puts it the right ear is designed to be like a sword going outwards contacting what the world has to offer and then using that information to aim the voice. The left ear is more the shield defending from the world. This is because the journey from the right ear to the language centre in the brain is 100 times faster, a 40 centimeter shorter journey than from the left ear.

Working with earphones picking up the subject's own voice Tomatis found that if the right ear is suppressed in a professional singer or actor and the left ear is left to regulate the voice alone (in both singing or speaking) not only does fluency disappear but all professional qualities break down. The voice becomes less colourful and off pitch and there is a slow down and lack of rhythm entirely beyond the will of the singer or speaker. Badly controlled voices with a feedback delay of more than .15 seconds create a particular stuttering but many other less obvious problems including emotional and behavioural difficulties or simply lethargy and tiredness can be attributed to an imbalance where the left ear is taking the lead and causing poor listening.

Pavarotti was due to sing. The manager came on stage to announce that although he was a little unwell Pavarotti would perform as arranged. Pavarotti began to sing with a little less brio than usual. As he continued it was noted that he was using his right arm in gesture looking for the sound to waft his voice towards his right ear. His demeanour began to change he became more upright and his voice assumed its habitual richness and strength. In fact sometimes opera singers will go out on stage and first present their left ear in defence from the audience and only as they regain their confidence and presence do they activate the sword of their voice and take aim with the right ear.

A generous voice cooperates with the ears to enliven, calm, reassure, excite anticipation in both others and ourselves. I am working quite simply to promote an awareness of the far-reaching consequences and responsibilities we face as we work to own our own voice: The health-giving properties of using an 'aligned' voice where we are truly playing on the self like a stringed instrument allowing the vibration to ring through us. Every voice has an effect on those around us and at the same time on ourselves. Simple exercises put into practise can alert us to these possibilities.

Advantageously placed as we are, already knowing the means whereby to use ourselves as a whole and to utilise the self practically in speaking with inhibition and direction, I believe there can be an accelerated benefit in understanding the gift that Tomatis has given us particularly in the understanding and application of the theory of bone conduction and that of the leading Ear.

In this talk I have greatly simplified the rich and varied layers of nuance, knowledge and application of Tomatis's research and life work. It is breathtaking to uncover the wealth and implications of his knowledge. I have barely touched the tip of this iceberg and have not talked about the many successful outcomes of treatment enjoyed by children and adults with speech and learning difficulties, autism, dyslexia, and other varied and often unexpectedly responsive conditions. I have spoken little about practical theories and understanding of the influence of architecture, colour, sacred music, sound and stress on our lives as well as his great love and respect for the music of Mozart which is used with the Electronic ear. Nor have I touched

on the immensely Spiritual and Christian context within which he places his life's work. Neither have I covered his firm grasp of all relevant matters neurological, his extensive research on prenatal life and his inclusion of these discoveries in his programmes of treatment.

In order to discover as much as I could about the work of Professor Tomatis I undertook the training to qualify as a listening consultant I am not however a practicing one and so my level of understanding is not integrated into the practice of his science.

What I have presented has been in order to illuminate the facts and experiences that excited my imagination and inform my Alexander voice teaching and to show you the visible links between our work and the approach I have borrowed to develop and promote the Generous Voice.

All "quotes" attributable to A.A. Tomatis from published and unpublished sources unless otherwise indicated. (Dr Bradford Weeks and Paul Maudale being the other quoted authors, well indicated in the text)

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