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INTRODUCTION

I don't profess to be an expert on this subject. All I propose to do, is to share with you some of my knowledge and experience in order, not to teach you anything, but rather to initiate and stimulate a discussion on this all-important topic.

I studied voice production with a man called Francis Russell, who was principal tenor of Covent Garden Opera Company in London, England during the 1920's and 1930's. He came to South Africa to produce operas for the Johannesburg Operatic Society, and later opened a studio for vocal production. He taught right up until his death several months ago. I studied with him for the best part of 12 years.

In preparation for this talk, I did make some use of three textbooks, namely:

- a) "Voice Culture Made Easy" by J.L. Orton (Published in England)
- b) "Functional Voice" by G.S. Tate (Prof. of Voice at the University of Texas)
- c) "Foundations of The Singer's Art" by V.A. Fields (Professor Emeritus of Voice and Diction of the City College of New York)

I also referred to the transcript of the lecture given by Dr. Robert Feder of Los Angeles, California, at the 1980 Cantors Assembly Convention. The lecture was entitled: "Some Professional Advice on the Care of the Voice."

THE LARYNX, CORDS AND MUSCLES

Without delving too deeply into the intricate workings of the larynx, I do think it advisable to talk a little about it.

In a full-grown man the larynx is about 2 1/4" long by 2 3/4" wide.

The true vocal cords consist of fibrous elastic tissue covered by a membrane, like that which coats the inside of the lips. They usually are "pearly-white" in color, but they may be pink, or red, when inflamed.

By the way, in 1693, someone known as Ferrein performed acoustic experiments on the larynx. He deduced that the vocal cords resembled a pair of strings set in motion by the stream of air, which he compared to a violin bow. The cords, he observed, were shortened and stretched in a manner analogous to the strings, and it was he who coined the term "vocal cords."

There are numerous muscles attached to the larynx. The intrinsic muscles are those which are attached, by both ends, to the larynx; and the extrinsic ones are attached to the larynx by one end only. The false cords, as a matter of interest, are situated above the true cords. They are reddish in colour. They derive their name from the fact that they are not the originators of ordinary voice, although they can be used to produce voice when breathing in.

WHAT HAPPENS WITH THE CORDS WHEN WE SING?

Basically, as we move from a lower tone to a higher tone, the cords are elongated. Certain muscles stretch the cords, and also cause increased stiffness. This in turn produces even faster vibrations of the cords.

When we sing falsetto, there is extreme overlapping of the cords, the vibrations of which are consequently confined almost entirely to the extreme edges of the cords.

TECHNIQUE OF SINGING

I'm sure that we all know that we are supposed to sing in a way known as "forward", as opposed to voice placement which is back in the throat or up in the nose. I am not even going to suggest how to achieve this. I believe we've all studied voice production, and to different extents, we have been able to achieve this in our singing - if not always, then at least sometimes.

Generally, a tenor should not "baritone" the bottom notes - in other words, a tenor should not sing the lower notes heavily, otherwise he is likely to lose the top range gradually, in favour of the now richer bottom range. One should attempt to produce the same tone colour throughout one's range.

WHAT ABOUT THE HIGH NOTES?

Orton, in his book, says: "You should at first think of high notes as low, and of low notes, as high. Eventually, all notes feel as if on one level."

"The raising of the pitch one semitone necessitates no more than one-hundredth of an inch added tension. The absurdity of the habit of opening the mouth widely, and also of straining, in order to sing top notes, is therefore clear."

"High notes, when properly produced, are unaccompanied by strain of any kind."

Fields, in his book, says that if one is singing correctly one should never ever become vocally tired.

The jaw is supposed to be kept loose in the same sort of way as when we yawn.

As far as <u>covering</u> is concerned, it is generally accepted that the tenor begins to cover on the "F." Of course that is not true with all tenors, and also it depends on where the "F" is in the piece, how well vocalized the singer is at the time, and other such considerations.

<u>Breathing</u> - We all know that we are supposed to make use of the diaphragm. Exactly how such use is to be made is not always clear. Although contraction of the diaphragm itself is not subject to conscious control, contraction of the abdominal muscles, can be regulated by the singer.

Since voice is the transformation of breath pressure, or compression, into acoustical energy, breath emission must be reduced to an absolute minimum. When the voice is being properly used, the flame of a candle held within a few inches of the singer's mouth, will not flicker at all during tone production. This is true, regardless of pitch or intensity. As Fields puts it: "Effortless singing is built upon the habit of quick but unforced inhalation followed by economical, sustained exhalation."

Articulation is important, and individual singers are affected differently. Some vowels are easier than others at the top. For example: If you listen to a recording of Gigli singing "Che Gelida Manina", you will note that when he gets to the high "C", he sings the vowel "a" instead of "e" as written: "La-a-a-a" Speranza instead of "La-a-spe-e-ranza"

VOCALIZATION

In dealing with vocalization generally, Orton says: "in order to acquire maximum power, physiology teaches us that the muscles must be regularly exercised, for a short time, at their full tension. I can tell you from my own experience, that regular exercise and use of the voice does increase its power,

The best effects, according to Orton, are produced "by confining the bulk of the practising to the central portion of the voice, avoiding too much practice on the top notes." In his opinion, too much practice on the top tends to weaken the middle notes, and may eventually spoil the voice completely.

VOCALIZATION BEFORE SINGING AT A SERVICE OR CONCERT

Dr. Feder, I believe, put it beautifully when he said: "Any athlete when he begins to work out must ensure that the muscles are stretched. There is nothing more important than the warm-up before you begin to sing." He adds, of course, that the method of vocalization is completely individualistic.

I always vocalize before I sing - at least on and off for 3/4 hour prior to the performance or service. Actually, during the day preceding an evening concert, I begin light vocalization in the morning, and continue in small doses throughout the day with the proper vocalization session prior to the performance.

On Shabbat morning, I begin vocalizing at 8:00 a.m. and end at 8:45 a.m. Of course, I rest in between. Needless to say, over or incorrect vocalization can lead to devastating results.

I start with a scale using the sounds "mi" and "ah" from the C up to the F and down. Then I do my next scale up to the G. Then I use a phrase, such as "Talor dal mio forziere" going up from the C to the Ab.

I rest and drink black coffee in between each scale. This scale is followed by a dimnuendo exercise using the phrase "Di Nonna Mar" - up to the G, and down again.

Then I do some light singing of any piece of music with which I am busy at the time - it really makes no difference. The tessitura should not be too high, however.

After that, I break for about 15 minutes, and then I do two scales:

- 1) Octave and tone from the C to the Bb or B depending upon how I feel;
- 2) Arpeggio from the C. to the G and progressing to the B. or C, depending on how I feel.

I believe in gradually warming up the muscles and so increasing the range and power of the voice.

VOICE CARE

As Placido Domingo put it in a newspaper interview published in the Montreal Star, the relationship which exists between a professional singer and his voice, can be compared to the relationship of Siamese twins. Although there is physical attachment, the voice must be treated as a totally separate entity.

GENERAL CARE OF THE VOICE

Avoid vocal strain of any kind. Singing beyond one's normal range is a strain. This also applies to singing below one's range. For example, in congregational singing, the tenor will find it a strain to sing in the range of the Congregation.

Training a choir, and singing all the parts is a tremendous strain. Talking too much generally, talking too loud, talking in an aeroplane and over the telephone, are all strenuous. Teaching, particularly in our case, Bar Mitzvahs, is a strain.

Shouting is obviously out.

Laughing incorrectly or too loudly is a strain.

In the words of Dr. Feder "whispering is the worst thing you can do for the vocal cords."

Generally one should not sing with any kind of throat infection, although it is possible to sing, as it were, over a cold, if the actual larynx has not been affected. Sometimes singing at the onset of a cold, can be easy and good.

<u>Coughing</u> is obviously strenuous on the cords. The best medication for this is something with codeine which stifles the cough centre in the brain.

<u>Antihistamines</u> are an absolute danger because they dry up the throat and they cause drowsiness.

These days, doctors are prescribing all kinds of steroids - Prednisone, Cortisone, and so on, in order to reduce swelling of the cords. However, the side effect of this medication, is that it reduces one's resistance to infection generally.

<u>Humidity</u> is the best thing for the voice. The ideal level is between 50% and 60%. Steam inhalation is important, as opposed to dry heat, such as a sauna, but too much steam may be harmful in that too much humidity may destroy the mucus lining of the windpipe and other membranes.

<u>Smoking</u> - Dr. Feder says: "This is the most detrimental thing you can do to your voice." The smoke alone causes the irritation of the vocal cords - not the nicotine and the tar.

<u>Alcohol</u> - it is generally held that alcohol is harmful if taken prior to singing. Alcohol causes swelling of the mucus membranes of the nose, mouth and throat, and disturbs swallowing.

WHAT ELSE SHOULD WE NOT EAT OR DRINK BEFORE SINGING?

Anything with milk is regarded as no good, although I understand that a Metropolitan Opera singer eats cottage cheese prior to performances. No nuts, coconut, chocolate, soda should be eaten or drunk prior to singing. The "goggel-moggel" which is made of milk and egg basically can, in my view, only be harmful. Drink whatever else you want to, but not too hot or too cold.

WHAT SHOULD WE EAT OR DRINK DURING PERFORMANCE?

This is very individualistic, and one man's meat may well be another man's poison. A Russian Hazzan, recently from Riga, eats apples. Some say black coffee is good. Most people say that to suck on some candy or lozenge without nuts or chocolate is good. Yet others say lemon juice or pineapple juice is best. Who knows? I suck peppermints and drink black coffee.

THROAT CLEARING

Dr. Feder says it is extremely harmful. It's a bad habit, he says. The only way my teacher suggested to clear it, is to sing over the irritation to the extent possible, and if necessary, crack very carefully (and artistically), and then it will leave you. It generally works for me. One must try and hide the slight crack, however. Dr. Feder says of clearing the throat: "If you clear the throat often enough, you produce an irritation of the little collages that move the vocal cords. They swell a little bit, you feel the swelling; they produce a fluid because an irritated area excretes mucus, and you are trying to clear out something you can't clear out. What you should be thinking about is trying to overcome the feeling of wanting to clear." Sucking something might help.

SLEEPING BEFORE SINGING

I believe that it is essential to have a good night's sleep before I sing. I rarely have a late night on a Friday. However, I do not sleep in the afternoon if I have to sing at a concert in the evening. I find that my voice goes to sleep, and my vocalization has to be commenced totally anew.

WHAT ABOUT CARE AFTER SINGING?

Since the whole vocal mechanism is hot from singing, one should not shock it after singing, by talking in the cold air. One should breath through the nose and not talk at all outside, particularly in cold weather. I practice this absolutely.

NON-PHYSICAL FACTORS AFFECTING SINGING

Anxiety, tension, nervousness, stress, depression, emotional strain, lack of confidence, being over-anxious to succeed, poor acoustics, a bad sound system, an unresponsive audience, or even the mere presence of one specific person, in the audience or Congregation, can detrimentally affect one's vocal performance.

A WORD ABOUT MEDICAL EXAMINATION OF CORDS

The method most commonly used by physicians to examine the cords is with the mirror; a system discovered by a singing teacher called Manuel Garcia. My teacher, Francis Russell, devised a method of looking at his own vocal cords using the sun as a light for the mirror.

More recently the rigid telescope was discovered. It is about 5 to 6 mm in diameter. It magnifies the cords and with certain additional equipment, it enables the physician to view the vibrations of the cords very slowly. It's quite amazing to see.

Finally, there is the fiber optic equipment put through the nose. With certain additional equipment, the person being examined can actually see his own vocal cords on a screen, while he is being examined.

CONCLUSION

A word of advice which I received from my teacher: "Be as careful in singing when your voice is in good shape as you inevitably must be, when your voice is in bad shape."