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ttirine Sadolin on the Internet

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English is not your first language see **the website for a glossary in your own language of the words and expressions used in this book.**

Other publications by Cathrine Sadolin C

Videos

Double video 'Rough, Ready and Able' Danish version. Tutorial video in singing techniques - technique and practise tape. Danish Artist Union 1992

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Folk 'n' FunkXD 'Today'. Shout Records 2000

Introduction

Singing Is not difficult

The voice is not as complicated to use as many people think. It is an instrument that everybody has and uses every day. Of course it requires practice to sing professionally but when you know how the voice works and know how to use its natural functions you will be able to learn most of what is required.

When we are young the voice usually works perfectly. However, as we grow the body can constrict it and this obstructs the working of the voice. Singing techniques are mostly about removing the constrictions to allow the voice to work freely. Therefore there is no reason to work with singing techniques unless you have technical singing problems.

Technique and expression

This book is mainly about technique - but not because technique is the most important aspect of singing. On the contrary, technique is only the means by which to express yourself. I think the most important aspect is expression - to convey a message. What to convey and how to convey it are artistic choices that every singer has to make for her/himself. This book is about the techniques required to accomplish the choices you would like to make.

The history ol singing

In the old days you could not amplify the voice electronically so singers had to find a way to be heard from considerable distances. This lead to the development and teaching of vocal techniques and ideals of what was a good sound. This taught sound became known in the Western world as the 'classical sound'.

With the invention of the microphone it became possible to amplify all sounds including those that were previously too quiet to be heard. This brought new 'untaught' sounds to the same prominence as taught sounds. Now the voice was not restricted to sounds that could be heard from a distance and other ideals of what was a good sound emerged.

Many of the 'new' ways of singing turned out to be just as strenuous and difficult as the 'taught' ways. 'New' singers, who became known as 'rhythmic singers', had to learn to sing healthily. However they could not rely on classical singing techniques as these relied on an ideal of sound that they were not interested in. As a result of this lack of tuition some new singers damaged their voices and their techniques were labelled as dangerous and unhealthy - even though many classical singers also had problems.

In the rhythmic camp some singers made a virtue of necessity and declared that 'true' rhythmic singers should be self-taught, claiming that tuition would remove a singer's special touch. Both camps nurtured their prejudices against each other. A gulf between the classical and the rhythmic camps developed which, unfortunately, still exists today. This gulf is more about taste than of" techniques.

Of those rhythmic singers who lost their voices some fell by the wayside in practise rooms and some lost their voices on tours, either at the beginning or later on in their careers. But there were 'rhythmic' singers whose voices lasted throughout their careers, regardless of how strained they sounded.

Therefore, it is on both the 'classical' school and the experience of these 'rhythmic' singers that many of my new singing techniques are based.

Myths about singers

There are many myths about performers before the days of recording; This was a voice like none other, never to be heard again' and so on. I don't believe this is true. It is probable that it was not the performer's voice that was so special but her/his technique. And we can all accomplish good technique by not only practising but knowing what and how to practise.

Unfortuantely, we can only tolerate the myths of past performers because we have no recordings to prove or disprove them. And, of course, their voices died with them. I believe that all singers can accomplish all sounds. Since recordings began there has not been a sound that can not be taught.

Myths about singing techniques

Being able to see what you are doing is an invalu¬able tool in learning. Unfortunately, singing tuition can not rely on sight and that has lead to myths about how sound was produced. Thankfully, sci¬ence has begun to provide new evidence such as looking at the vocal cords, the anatomy of the throat, and the way the body breathes. This has helped to eliminate many of the misconceptions and myths which, even today, ruin voices and careers.

On the basis of this new knowledge months of wasted and harmful training can now be avoided. When teachers can be specific in their instruc¬tions, singers no longer have to go through years of training based on vague directions. When you can work on a problem directly, it is easier to determine whether you are on the right track or not. A technique must have the intended effect immediately otherwise it is not being done cor¬rectly. Singers who perfect these new techniques are able to last on strenuous tours which is one of the reasons why they are recommended by doc¬tors and speech therapists.

My research

It is my firm belief that all the sounds a singer wishes to make are equally important and must be taken seriously - also research wise. By removing the restrictive ideals of sounds and by dividing and isolating all the elements of sound, it becomes the artist's personal choices that deter¬mine the sound rather than convention. I do not wish to judge which sounds should be considered right and essential to learn. All sounds are equal-ly valuable, therefore this book includes all the sounds in the voice I have ever encountered

A little history

I never had a natural talent for singing. In fact, I even had problems with breathing - my first singing lessons were an attempt to overcome breathing problems due to asthma. One way or the other I had to develop techniques to get the sounds I wanted. The first step was to understand the anatomy and physiology of the voice and this enabled me to distinguish between myths and truths about the voice. I then experimented with trying to aproach the sounds in ways other than traditional methods.

The only natural things I had was a love for music, a belief that everything is possible, and the energy to keep going. That is why I say that if I could learn to get the sounds I wanted, so can every body.

Through the years while I was working on my technical problems I had always listened to all kinds of music. That was probably why many rhythmic singers began asking me to help them achieve certain sounds and overcome vocal prob¬lems, even though I was trained and eventually performed as a classical singer. What it seemed they wanted was the best of the classical tech¬nique but without the classical sound. I believed it should be possible to benefit from technique with¬out being constrained by a preconceived ideals of sound. To do this I had to find out how sound was produced and this urged me to study many styles of singing, speech and hearing science, acoustics and spectral ear training.

Singing techniques were always presented as complete packages. If you wanted to use them you had to accept all of it - the sounds, vowels, pitches, and volumes to use when and where. I did not want to accept that. I wanted to disolve the many packages so that I could combine the numerous elements to create any sound I was looking for.

Methodology

According to the traditional Western perception blues, rock, gospel and many ethnic styles of singing, for instance in Arabic music, do not

sound healthy. And yet many of these singers sing more frequently and for longer than many classi¬cal singers in top technical form. Furthermore, many superb hard/heavy rock singers continue to sing well even though they had been told their careers would be shortlived. In fact many of these singers often improve over the years and sing bet¬ter, regardless of how damaging their singing sounds.

My research included all these types of singing. I belived these singers must have had excellent technique for them to sing for so long and still sound so great. I looked for common factors in their singing to search for an underlying structure to the sounds that were produced.

It became apparent to me that there was an underlying structure to the sounds. I expanded on this by deconstructing as many different sounds as possible from as many different types of music, taking into account the sound, the vowel, the pitch, and the volume, to see if there was a pat¬tern. Gradually this pattern became more and more evident and I deduced the sounds could be broadly seperated into two classes. One class was harder, rougher, more direct, as if the note had an edge. I called these 'metallic' sounds. The other class was called 'non metallic'.

I studied the sounds even further and realised there were more specific classes. These varied depending on how metallic the sounds were. Therefore I classified them as either full metallic or half metallic. Furthermore, within full metallic there seemed to be two distinct classes.

Now I had identified four classes that I called the 'vocal modes': one non-metallic, called Neutral; one half metallic, called Curbing; and two full metallic called, Overdrive and Belting. However, detecting the vocal modes was only half the bat¬tle. Then I experimented on performing them - both on myself and on a small group of accom¬plished singers.

The birth of Complete Vocal Technique

The work progressed to such an extent that all sounds of the voice could be organised and cate¬gorised into a coherent system. In effect, a whole new concept in singing tuition was formed and contrary to previous techniques and beliefs it could apply to all styles of music.

I then experimented with sounds used in classical singing and found the classical sounds were also produced by the non metallic, half metallic, and full metallic modes. This confirmed to me that the vocal modes encompass all sounds, all singing techniques, and all musical styles.

Further work with the vocal modes made it possi¬ble to identify their advantages and limitations. When a singer is familiair with these s/he will gain a better overview, be able to choose more freely between sounds, and avoid damaging the voice.

Ongoing research

Music styles progress rapidly, influenced by cul¬tures and their singing techniques. At the same time, singing techniques have also undergone major developments, a trend that is unlikely to end in the foreseeable future. By rejecting out of date ideals of sound, this development has called upon more all-embracing ways of perceiving the functions of the voice. It has also demanded research in new singing techniques - such as this book.

Scientific research is often based on pre-existing knowledge and singing technique is no exception. There is no reason to reject knowledge inherited, for example, from the old Italian masters of clas¬sical singing but it has become apparent that additional knowledge is necessary to meet new demands.

This said, it must be added that scientific research is so new that many aspects are yet to be studied. For instance, certain sections of this book have been revised during its writing as new discoveries were made. However, even if techniques are not

yet fully developed, they work. The right sound is obtained without discomfort or becoming hoarse. That is a step in the right direction.

Theory is not interesting in itself

Singing tuition has come a long way from the time when singers were told that 'placing the voice' would take eight years.

Scientific advances have revealed new facts about the instrument but unfortunately this new knowledge has shifted the focus away from practical use and on to theory. While studying theory is valuable, development must not stop there. The objective of a singer is not to be scientifically educated but to get practical instructions on how to solve her/his problems. A specific problem requires a specific solution - not a theoretical lecture. Theory in itself is not interesting but a means of getting on with the musical work. Only when theory is put into practice are artistic experiences possible.

Easy to use

The techniques in this book have been developed and tested in recording studios and on tours. The main purpose of this material, therefore, is that it must be clear and easily accessible - and most of all, easy to use.

Increasing demands

The demands on singers have increased with time. In the Renaissance (14th century) the range of most songs was about 1.5 octaves. In Mozart's time (18th century) this had increased and was, in extreme cases such as The Queen of the Night in The Magic Flute, to twice that amount - about 3 octaves. Today you often hear singers with even larger ranges. This, together with increasing commercial exploitation, means the demands on professional singers are enormous. For record companies to work with a singer they must be convinced that s/he is able to live up to the demands and be able to last concert after concert on strenuous tours.

Educational tools are options - not demands

Ironically, in the growing demand for tuition and the new possibilities of satisfying that demand, there is a risk of pushing singers yet further. I do not want to take part in increasing the technical pressure on singers. I would simply urge you to regard these new singing techniques as optional tools - not as demands. This book is intended as a guide to producing different sounds and overcoming vocal limitations. Singing technique should not be the main issue. Nor should any singer believe that all the possibilities of the voice have to be perfected to pursue a professional singing career.

Remember it is the choices of what NOT to do as well as the choices of what to do that characterise an artist.

Techniques must work instantly

With the new techniques singers can get immediate help in solving problems rather than being told to practise for years, not knowing if they are on the right track. A technique must work instantly, otherwise it is not being done correctly.

It is not necessary to start over every time you seek new tuition or knowledge. There is no point in discarding previous tuition to obtain new knowledge. Singing is not so difficult, because the techniques work instantly once you are on the right track. Also with the techniques in this book it is enough to correct only the parts of your singing that you wish to improve whilst keeping the parts you are content with.

Today it is possible to give Emergency Aid to singers. A single hour's work is often enough to enable singers to complete concerts and studio recordings that would otherwise have had to be cancelled. The fact that a large part of my work consists of giving Emergency Aid is proof that the techniques work. Theory has been transformed into useful, practical techniques that work instantly in emergency situations.

I believe it is possible to produce ALL sounds in a healthy manner.

Using this book

Different learning angles

Everyone learns differently. Some singers have to understand the physiological explanation of a problem in order to solve it, some physically feel their way through, while others work by means of sound, for example by hearing, recognising, and copying. Some learn by looking at graphic illustrations, and others find the solution to their problems through inner images and sensations. To cater for all these learning methods each chapter of this book will contain:

- Anatomical explanations
- Physical instructions
- Examples of sound on CD
  (A 5 means track 5 on the CD)
- Illustrations
- Examples of inner images and sensations

One method is no more important than, or preferable to, any other. The physiological explanations are included simply because some readers will find it invaluable. Others, however, may find it of little use and potentially distracting. The techniques in this book do NOT necessarily require you to understand and feel your anatomy or physiology. H is important not to be overwhelmed by this information. The different methods are presented as a range of possibilities. It is up to you to choose the method you find most accessible and gives the best results. It might however, be practical to read all different types of explanations - partly because it may help to see things from different angles, and partly because one explanation often supplements the other.

Became familiar with the anatomy o! the body

I recommend that singers should be aware of what is happening in the body during exercises and singing. Therefore I have used correct anatomical terminology throughout this book. Once you know and understand the anatomy and physiology of the voice and are aware of how to use it, it is easier to understand your vocal problems and to do something about them, For instance, it will help you to distinguish between good and bad advice about 'correct' technique. 1 urge everybody to study the anatomy and physiology of the voice and, with common sense, find the technique that feels best.

A healthy voice

The first thing a singer must learn is not to lose the voice. Once you lose your voice you have to stop working until it returns. Furthermore, it is difficult to experiment if you are hoarse as the voice does not respond as it normally would - it takes a skilled singer to avoid compensating once the voice is worn. As long as the voice is in good condition, you can practise, experiment, and achieve your goals.

Trust yourself

An important rule is that singing must never hurt or feel uncomfortable. This cannot be stressed enough. If it does not sound right, if something feels wrong, or if it feels uncomfortable, your voice is telling you that you are doing something wrong. Always trust your feelings - they are better and more direct than even the best teacher's ear.

Singing must always teel comfortable

- The technique must have the intended effect immediately otherwise the training is not being done correctly
- If an exercise hurts or feels uncomfortable or wrong, then it IS wrong. You are the only one who knows how it feels, so trust your feelings
- Always practise as close to a real-life situation as possible. For instance, musicians who sit when they sing should also practise while sitting

Find the main problem

Whenever you are learning it is always difficult to decide what is most important. To assists you in this I have outlined the techniques presented in this book in the chapter "Complete Voca# Technique in four pages" (page 13). This is designed to give you a comprehensive overview before you go into detail.

Even though each topic is thoroughly described in this book, this does not mean that every subject is equally important for all singers. Certain passages will be relevant to some but not to others.

The most important thing is to focus on the main problem instead of being distracted by detail. If you can identify and solve the main problem many other problems will be solved simultaneously. It is easier, and more efficient, to concentrate on one problem at a time. I suggest that once you have an overview of the technique in this book, you should feel your way paragraph by paragraph in your search of your main problem.

Exercises must be simple

Many singers ask for specific exercises to solve specific problems. I do not think the exercises itselves are important, but THE WAY in which you work with them. All your concentration must be put into exactly HOW you work with the voice during the exercise. The result should be that you can sing all combinations of notes and intervals without problems.

Because all your attention must be placed on achieving the correct singing technique, the exercise should be as simple as possible. That vyay you can concentrate on the work of the body. It takes too much concentration to manage a complicated exercise while, at the same time, trying to solve technical problems. That is why the exercises in this book are simple, each of them dealing with one technical problem at a time.

The exercises in these books can be replaced by others as the melodic sequences in themselves are of little importance. The WAY in which you work with the exercises, however, is important. So if you wish to use other exercises, please do so.

Songs instead ol complicated exercises

When you are able to perform simple exercises with correct technique, you will have a solid foundation on which to approach the problems in songs. I see no point in working through difficult and complicated rhythmic and melodic sequences to train your voice. Instead, you should tackle the problems of a song. Every time you come across a technical problem, return to a simple exercise, and concentrate on solving that specific problem. Once you have figured out HOW to solve the problem transfer the technique to the song.

Later, once you can control the technique you can use other scales (see Improvisation and phrasing, page 217).

Changing the key ol the exercises

When you have perfected the exercises in one key you can practise them in other keys. This is called 'transposing' the exercise and will give you a good idea of the factors you should take into account when in different keys. ih 94

Personalised training programme

Put together your own training programme to practise those techniques that YOU think need work. You can vary your training programme according to your technical problems, what you need, and how much time you have.

Muscular memory

If you sing something many times you are working it into your "muscular memory". This means the muscles around the vocal cords are getting accustomed to it and will learn to do it automatically the next time. It is important, therefore, to work healthy routines into your "muscular memory" rather than routines that will make singing more difficult.

When you practise, it is important to concentrate and avoid too many errors. It is better to do easy exercises without mistakes than difficult exercises with mistakes. If you fail with the same exercise three times in a row, it is obviously too difficult and you are in danger of creating constrictions if you continue. -Constrictions are muscular tensions that develop in the throat and lace up the vocal cords, impairing the voice. You must make the exercise easier. Become familiar with the correct 'feeling' and work healthy routines into your 'muscular memory'. Eventually, the voice will ONLY know these healthy routines and you will not have to spend much time on technical difficulties.

How long should you practise

There are many myths about how long a singer should practise. As with all things in singing it depends on the individual. A singer has to judge how long s/he can keep concentration and how much energy s/he has. It is important to be famil¬ iar with your own limits and not practise more than you can manage. Training without concentration or strength can do more harm than good. You may inadvertently adopt the wrong techniques which could take hours to remove. In other words, no exercise is preferable to poorly performed ones.

Practise with other singers

Practise with other singers for mutual support and encouragement. It is more fun and several pairs of ears hear better than yours alone. It is usually easier to hear the mistakes of another singer so help each other and have fun. Again, always trust yourself and do not confuse taste with technique. Only you can make your artistic choices and decide what sound you want.

Take responsibility lor yourself

It is important that singers begin to take responsi¬ bility for their development instead of relying on a teacher. Even the best teacher in the world cannot achieve results if you do not do the work involved. In the end it is you who has to decide what parts of the teaching you can use, what parts you can¬ not make work, and what you do not believe in.

It is not difficult to work out if you are on the right track. A technique should continuously improve your singing otherwise it may be wrong. There is no reason to take lessons for years if you do not think the instructions make singing any easier or bring you closer to your goals.

Trust your taste, powers of judgement, and feel¬ ings. To be something special, different from the others is important and you can achieve it by experimenting until you find your own style. Feel, listen, and choose. Test the technique and prac¬ tise until you have learned what you want to be able to do. Determine wether you are getting the sound you want. If not, what is missing? Try to find it through your own intuition and taste. Why should you use a sound you do not like? Nobody but you can create YOUR career, and maybe your career is based on being different and sounding like no-one else. Always be your own judge and decide whether you are getting closer to your goals.

As far as I am concerned the tastes of the teacher are unimportant. The teacher's task is purely to help the singer achieve her/his desired way of singing in a healthy manner - for example, by hearing where possible muscular tensions are located and making suggestions for how the singer can remove them. The teacher could pos¬ sibly also present possibilities of sound but it is the singer who should make the artistic choices.

The vowels used in this book

U is pronounced as in you

0 is pronounced as in woman

OH is pronounced as in so

OR is pronounced as in order

EE is pronounced as in see

U is pronounced as in sit

EH is pronounced as in stay

A is pronounced as in and

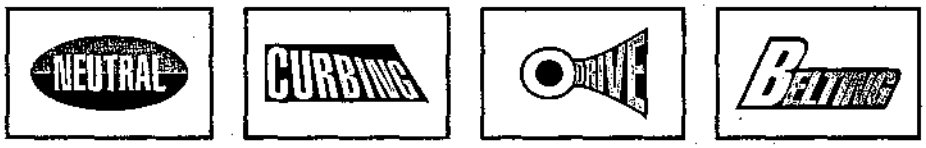
AH is pronounced as in far

OE is pronounced as in herb

3 basic principles

- open throat
- support
- no tightening of the jaw and lips

CHOOSE VOCAL MODE



CHOOSE SOUND COLOUR

perhaps CHOOSE EFFECT

- distortion
- vocal breaks
- air added to the voice
- scream
- creaks
- vibrato
- techniques for ornamentation
- growl
- rattle
- hoarse attacks

Complete Vocal Technique in four pages

Singing is not difficult and everybody can learn to sing. I have divided singing technique into four subjects, listed below. By combining elements of these four subjects you can produce precisely the sound you want. You will also be able to pinpoint your problems and mistakes, and you can dive into the techniques where you want and from there work your way through the rest of the book.

Here I have condensed Complete Vocal Technique into four pages. You can return to these pages at any time to give yourself an overview of the contents of this book.

The lour subjects are:

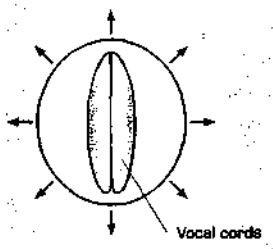
- The three basic principles
  (to ensure healthy sound production)
- The four vocal modes
  (to choose the 'gear' you want to sing in)
- Sound colours
  (to make the sound lighter or darker)
- Effects
  (to achieve specific sounds)

The three basic principles

The three basic principles are the basis for singing and so are the most important to perfect. They make it possible to reach all the notes with¬ in the singer's range, to sing long phrases, to have a clear and powerful voice, and to avoid hoarseness. The three basic principles must be obeyed regardless of mode, sound colour, and effect. They are:

1 Open throat

This means avoiding constrictions around the vocal cords. The vocal cords need room to stretch on high notes and relax on low ones. An open throat is mainly achieved through correct support and by being aware of how an open throat feels.



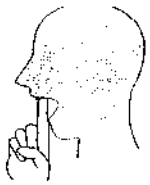
2. **Support**

This means working against the natural urge of the diaphragm to release the air that has been breathed in. This is achieved by resisting its movement. During singing, the muscles of the waist and solar plexus are pushed outwards, the abdomen around the navel is gradually pulled in, the curve of the back is straightened, and the muscles of the back are tightened. The motion of support must be constant, as though working against a resistance, for as long as a sound is being produced. If the motion of support is not continuous (for instance, if you can not pull the abdomen around the navel further inwards or push the muscles of the

waist or solar plexus further outwards) then you usually cannot support any longer. It is important to conserve your energy so you do not tire prematurely. Do not use support before it is necessary - in other words before the singing gets difficult, such as on high notes or at the end of a phrase. Support is hard work so you should be in good physical condition.

3 Avoid muscular tensions in the jaw and lips

These often produce constrictions around the vocal cords. Achieve a loose jaw by bending your head back and placing a finger between the upper and lower jaw. Keep this position of the jaw as you sing. The lower jaw should be pulled inwards compared to the upper jaw. Be sure to open the mouth wider on high and low notes than on notes in the middle part of the voice.



When you are avoiding tensing the lips it is important to form the vowels with the tongue without altering the shape of the mouth much. Consonants, however, are usually produced by tensions - but as you do not stay on them for very long they do not impair singing. It is important to be able to relax immediately from a consonant to the following vowel.

Four vocal modes

The use of the voice can be divided into four vocal modes: Neutral, Curbing, Overdrive, and Belting. The modes differs by having differents amounts of metallic or edged (tilted) character. Almost all singing problems occur because of incorrect use of the modes. Each mode has a characteristic sound, as well as advantages and limitations. To avoid mistakes and technical problems it is important to know and control the modes and their advantages and limitations. It is also important to be able to change freely between the modes in order to make the most of their advantages. You can change rapidly and smoothly or make abrupt changes to achieve vocal breaks. The four vocal modes should be trained individually. Remember to obey the three basic principles, regardless of the mode.

Neutral

Neutral is the non-metallic mode. There is no metal or edge on the sound. It often has a soft character, like when you sing a lullaby. Neutral is the only mode where you can sing breathy without damaging the voice. It is the degree of the compression of the vocal cords that determines whether the note is breathy or compressed. The two extremes of Neutral are called: soft closure Neutral and compressed Neutral (Neutral with hard closure). For the sake of clarity, both extremes are sometimes shown individually. Neutral is found by establishing a loose jaw.

In rhythmic music soft closure Neutral is often used for quiet passages and when air is added to the voice. In classical music soft closure Neutral is only used as a rare effect. In everyday life soft closure Neutral is used when you speak in a breathy voice or whisper.

Compressed Neutral is often used in rhythmic music when the notes should be without metal - and yet clear and non-breathy. In classical music compressed Neutral is used by both men and women when singing quietly, for example, with pianissimo and thinning. Women use compressed Neutral in classical music when they sing in the high part of their voice, regardless of volume. In everyday life compressed Neutral is used when you speak quietly without air added to the voice.

All parts of the voice, all vowels, and all sound colours can be used in Neutral by both men and women. Generally, Neutral is a mode with a quiet volume, from very quiet (pp) to medium loud (mf). Very loud volumes (ff) can only be obtained in compressed Neutral in the high part of the voice. In the West, Neutral is the most commonly used mode in singing tuition and is used by, for example, school choirs.

Curbing

Curbing is the half metallic mode. There is a slight metal or edge on the notes. Curbing is the mildest of the metallic modes. It sounds slightly plaintive or restrained, like when you moan because of a stomach ache. Curbing can be found by establishing a 'hold'.

Curbing is used in rhythmic music when the volume is around medium loud and when a certain amount of metal is wanted on the notes, such as in soft soul or R 'n' B. Curbing is used in classical music by men singing medium loud (mf) and women singing loud (f) in the middle part of the voice and sometimes in the low part of the voice (chest voice). Curbing is used in everyday life when you wail, moan, or whine.

Men and women use Curbing all through the various parts of the voice. In the high part of the voice, however, Curbing often merges into Belting or compressed Neutral. The sound colour can be altered quite a lot. All vowels can be used. However, in the high part of the voice, the vowels have to be directed towards I (as in sit) or O (as in woman) to stay in the mode. The volume in Curbing stays largely medium, ranging from medium quiet (mp) to medium loud (mf). Very quiet volumes are not possible and very loud volumes are only possible in classical singing in the middle part of the woman's voice.

Overdrive

Overdrive is a full metallic mode. There is a great amount of metal or edge on the notes. The character of Overdrive is often direct, loud, and shouting, like when you call 'hey' after someone. Overdrive can be found by establishing a 'bite'. When speaking or singing loudly in the low part of the voice it is most commonly Overdrive which is used.

Overdrive is used in rhythmic music when the volume is loud and when a great amount of metal is wanted on the notes, such as in rock music. Overdrive is used in classical music when men sing loudly (f-ff). Women do not use Overdrive in classical music, except some in the low part of the voice. Overdrive is used in everyday life when you shout.

Overdrive is the most limited mode in terms of pitch, especially for women. The upper limit for women is d2/eb2 and for men is c2. There is no lower limit. All vowels can be used in the low part of the voice, but in the high part of the voi$e you can only use EH (as in stay) and OH (as in so). The sound colour can be altered to some extent. The volume in Overdrive is largely loud. However, medium volume can be obtained in the middle/lower part of the voice. The higher the notes sung the more distinct and loud the shouting character becomes.

Belting

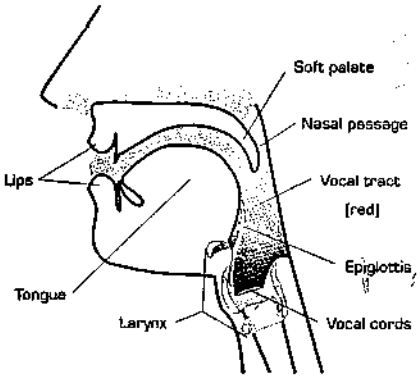
Belting is a also a full metallic mode. There is a great amount of metal or edge on the notes. The character of Belting is tight, aggressive, sharp, and screaming, like when you imitate a diving aeroplane. Belting can be found by twanging the epiglottis funnel.

Belting is used in rhythmic music of some styles and mostly in the high part of the voice when the volume is very loud and with a great amount of metal on the notes, such as in heavy and gospel music. Belting is used in classical music when men sing very loudly (ff) in the high part of the voice, such as the high c of a tenor. Women do not use Belting in classical music. Belting is used in everyday life when you scream.

Belting can be used in all parts of the voice by both men and women. Only twanged vowels can be used as the twanged epiglottis funnel is a condition of Belting. This means that in the high part of the voice you can only use EE (as in see), I (as in sit), EH (as in stay), A (as in and), and OE (as in herb). The sound colour can only be altered a little. In the high part of the voice you must not alter the light and sharp sound colour. The volume in Belting stays largely loud. The higher the notes sung the more distinct the screaming character becomes.

Sound colour

Almost all of the modes can be coloured lighter or darker. The sound colour is created in the vocal tract (the mouth cavity) which is the whole section from the vocal cords to the lips and the nasal pas¬sage. The form and size of the vocal tract are of great importance to the sound colour. All singers have different vocal tracts and, in fact, all singers have their own personal sound colour. If the vocal tract is large the sound colour will be darker with more body to it. If it is small the sound will be lighter and thinner. The vocal tract may be moved in many directions so there are many ways of changing the sound colour of your voice.



Remember to obey the three basic principles and to be in control of the mode before changing sound colour.

You can change the shape of the vocal tract by changing:

- the shape of the epiglottis funnel
- the position of the larynx
- the shape of the tongue
- the shape of the mouth
- the position of the palate
- the opening or closing of the nasal passage

Each of these factors can be trained individually to influence sound colour. Once you can control each factor individually they can be combined to achieve numerous sound colours.

Effects

These are sounds not connected to melody or text, sounds that underline the expression or style of a singer. Many effects are produced in the vocal tract (the mouth cavity). All singers are dif¬ferent. What one singer must do to obtain an effect may differ to what another has to do. Consequently, every effect must be specifically designed to each singer taking the anatomy, physiology, fitness, energy level, and tempera¬ment into account.

Before you start working with effects it is impor¬tant that you can control the three basic princi¬ples, the mode, and the sound colour.

Effects might be:

- Full and half-distortion
- Rattle
- Growl
- Vocal breaks
- Air added to the voice **(breathiness)**
- Screams
- Hoarse attacks and creaks
- Vibrato
- Ornamentation technique **(rapid run of notes)**

Trust yourself

Some core rules that cannot be repeated too often are:

- Singing must always feel comfortable.
- The technique must have the intended effect right away, otherwise you are not working cor¬rectly.
- If an exercise hurts, feels uncomfortable, or feels wrong - it IS wrong. You are the one who knows how it feels so trust your feelings.

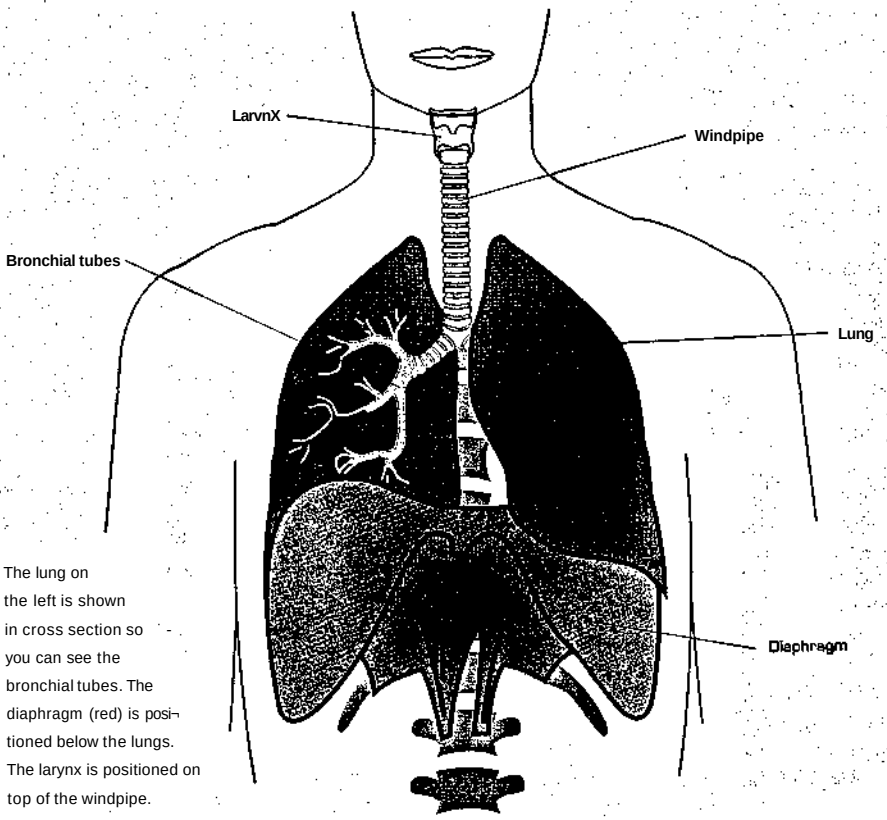
Breathing

The techniques in this chapter apply **to both** singers and wind instrument players.

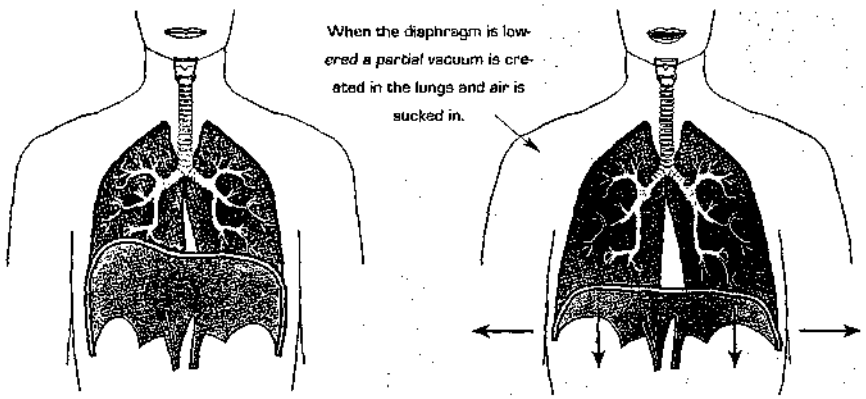
We take about twelve breaths per minute and, for most people, the process is unconscious. However a singer has to be aware of how it works. To understand the process of breathing (respira¬tion) you have to know the anatomy of the part of the body involved.

Anatomy

The lungs are situated in the chest (thorax) and underneath them is the diaphragm. The diaphragm is a large muscle, shaped like an open parachute at the bottom of the chest that has been attached all the way round to the lowest set of ribs. It separates the upper part of the body into a sort of upper and lower 'floor', where the upper floor is the chest containing the lungs, and the



The lung on the left is shown in cross section so you can see the bronchial tubes. The diaphragm (red) is posi¬tioned below the lungs. The larynx is positioned on top of the windpipe.



lower floor is the abdominal cavity containing the bowels. The diaphragm is surrounded by ribs and muscles and penetrated by the gullet (oesophagus) which is the pipe that carries food from the mouth to the bowels.

The very first breath

An unborn baby does not breathe but still needs oxygen. When the mother breathes, oxygen is delivered into her blood via her lungs and is send to the baby through the umbilical cord. At birth, the baby must breathe on her/his own. Before birth the baby's diaphragm is in a relaxed state, like an open parachute. The principle of any muscle is that when it acts it shortens in length. So when the child takes the first breath the diaphragm tightens changing from the relaxed, open parachute position into a more flattened position. In effect, it lowers itself in the chest (thoracic) cavity. Because the diaphragm is attached to the lungs, the lowering effect pulls on the lungs, streching and opening them up, and the creating of a partial vacuum causes the baby to open her/his mouth and suck in air.

The air is sucked in through the mouth or the nose, through the larynx, passed the vocal cords, down the windpipe (trachea) which branches into delicate bronchial tubes, and then continues all the way into the tissue of the lungs.

Once the diaphragm has been tightened for a moment the muscle relaxes again and returns to its initial, open parachute, position in the chest cavity. This way the breath of air is released from the body and the first breath (respiration) is complete.

Conscious versus unconscious process

Following the first breath the diaphragm tightens again, sucking in air, and so on and so forth. Breathing (respiration) has begun and will wock hopefully without problems from now on. The diaphragm works like a piston, managing our inhalation and exhalation without our being aware of it. It works at its own rhythm. A singer, however, has to intervene in this unconscious process which is often difficult because breathing has been minding its own business for so many years.

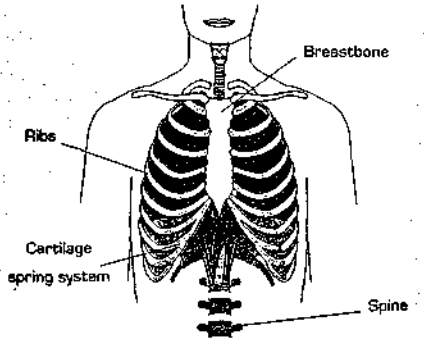
Diaphragm, ribs and abdomen

The outer edge of the diaphragm is attached all the way around the body. At the front it attaches to the breastbone (sternum), at the back to the spine, and around the sides to the lowest set of ribs. The diaphragm's flattening process is facilitated by heavy muscle fibres which connect the ceiling of the diaphragm to further down the spine. These help to *pull down* the middle of the diaphragm.

When the diaphragm tightens and therefore lowers, its circumference increases. It expands all the way round, pushing the ribs outwards. In the front, the lowest ribs are attached to each other with cartilage in a sort of spring system, allowing the chest to expand. At the back, however, there

is no such spring system and the ribs attach directly onto the rigid spine. The net effect is that the expansion of the diaphragm is greatest at the front and sides, and minimal at the back. The diaphragm moves a couple of centimetres during normal breathing and about 10-12 centimetres during heavy breathing.

When the diaphragm tightens it also pushes down on the contents of the abdomen - the bowels. This forces the abdomen to bulge a little, often making singers believe they breathe with the abdomen.



The diaphragm is attached to the spine, the lowest set of ribs, and the breastbone.

Finding the best breathing technique

During singing or speaking air should stay in your lungs for as long as possible. That is why the sen¬sation of retaining air should be as comfortable as possible.

You have to control the air as it's breathed out (exhaled). If you do not hold it back it will escape in an instant and this makes it difficult to sing. It is essential that inhalation, as well as the storage of air, is as comfortable as possible. There are many different ways to feel breathing but in general you can divide the process into three: breathing with the chest, abdomen, and diaphragm. There are numerous opinions on which type of breathing is best and how correct breathing should feel. I sug¬gest you investigate which feels most comfortable and which is easiest to control.

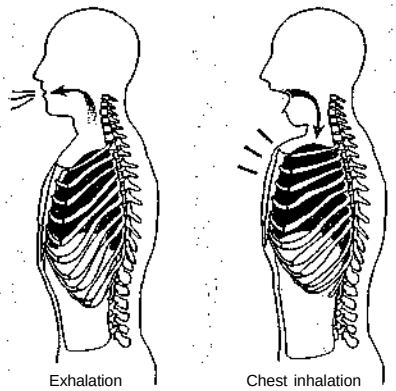
Inhalation

It is important to inhale quickly and efficiently. When you sing there is rarely time to breathe through your nose so there is no point in practis¬ing it. There is also no point in adding sound to inhalation as it usually should be as quiet as pos¬sible. You must breathe calmly and unhindered through your mouth without pouting or pursing the lips.

Chest inhalation

This describes when the upper part of your chest raises during inhalation.

The inhaled air fills the upper part (apex) of the lungs. Unlike the lower ribs, the upper ribs are smaller and cannot bend very much. In each lung apex there is very little room to expand. This type of inhalation is unpleasant for most people as it feels tight. It is often difficult to maintain and can create muscular tensions in the throat, making the voice feel tight. However, there are some singers who experience no discomfort with this type of inhalation.

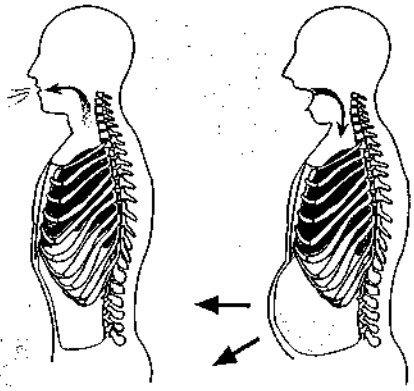


Chest inhalation: Air fills the **upper** part of the chest which can feel **unpleasant** and tight.

Place your hand on your upper chest. Take in as much air as possible, fill the top of the lungs and feel how your hand is lift¬ ed. Hold your breath and note the sensation of chest inhalation.

Abdominal inhalation

Many people talk about 'breathing with your abdomen' but this is not accurate as there are no lungs in the abdomen. It might look that way, when the abdomen bulges out during inhalation, but what we actually see is the diaphragm push¬ ing the intestines down and outwards, creating the bulge. With 'abdominal inhalation', the abdomen expands quite a lot, while the chest and ribs move very little. There is no point in overdoing this pres¬ sure as it does not improve breathing. You do not sing any better by putting pressure on the bowels. Usually it is strenuous and uncomfortable to keep the diaphragm in this position and requires a lot of energy. This kind of pressure often triggers mus¬ cular tensions around the vocal cords and is\not a particularly pretty sight either.



Exhalation Abdominal inhalation

Abdbrhinal inhalation : The diaphragm pushes down on **the** intestines creating a bulge.

Exhale and inhale letting only the abdomen around the navel expand. Neither the upper ribs in the chest nor the lower ribs at the sides should move. Hold your breath and notice the sensation of 'abdominal inhalation'.

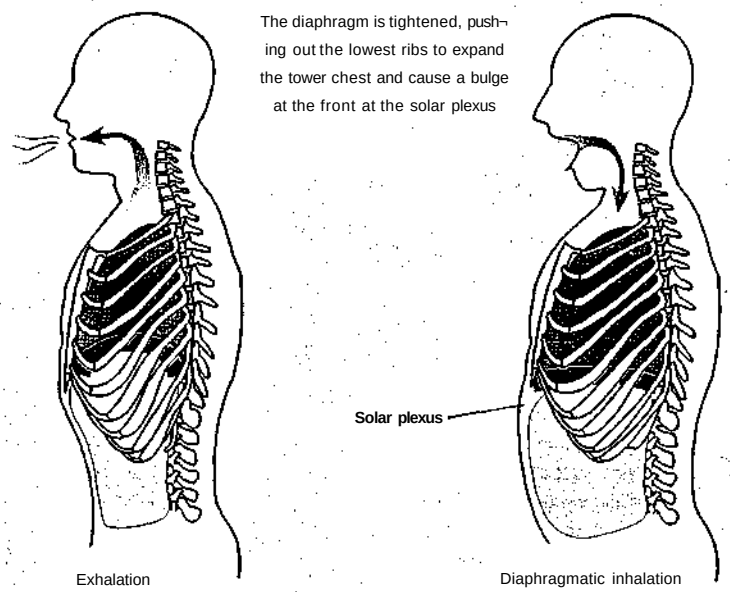
Diaphragmatic inhalation

The most natural type of inhalation is that of the diaphragm. The diaphragm is tightened, pushing out the lowest ribs to expand the lower chest and cause a bulge at the front at the solar plexus. The abdomen around the navel also expands slightly. After an inhalation the diaphragm relaxes and releases the air. The lowest ribs return to their ini¬ tial position, the bulge at solar plexus disappears, and the abdomen around the navel flattens again.

Place one hand on the ribs at the side at the lower end of the chest and the other hand on the solar plexus. Breathe calmly and unhindered through your mouth and do not pout. The lowest ribs expand and a bulge emerges at the solar plexus. This bulge is the sign of the diaphragm having tightened. You can also feel how the abdomen automatically expands slightly. Let the abdomen around the navel work by itself, it must neither be helped nor hindered. The upper part of the chest must not be raised. Hold your breath and notice the sensation. Relax and exhale and feel how the bulge at the solar plexus disappears at the same time as the air escapes. This type of inhalation should feel comfortable, is usually easy to do, and makes it easy to hold your breath.

Exercise lor diaphragmatic inhalation

Place your hands on the sides of the ribs at the lower end of the chest. Exhale for a long time,



heavily and unhindered, and at the same time PRESS the ribs in with your hands. Release the pressure on the ribs while taking in air so that the lowest ribs and the bulge at the solar plexus expand as much as possible but WITHOUT rais¬ ing the upper part of the chest. The inhalation must be calm. Let the ribs push your hands out, and feel how the bulge at the solar plexus comes outwards as well. Practise this inhalation until it becomes natural.

Avoid keeping the abdomen tight

Abdominal inhalation can be used if a singer tends to tighten her/his abdominal muscles on inhaling. Some singers obstruct their breathing by holding the abdomen in so tightly that no room is left for the diaphragm to push the bowels down. When the diaphragm cannot expand downwards the only possible expansion is in the chest. By placing a hand on the abdomen, around the navel, and feeling the abdomen expand when you inhale you can avoid breathing with the chest alone. You can also feel how the lower ribs expand at the sides. If you are very tight around the abdomen you must concentrate solely on expanding the abdomen as you breathe in. It is all right to overdo it in the beginning. Then try to make the ribs expand as well, but avoid breathing into the upper part of the chest. Let go of any mus¬ cular tensions and feel the expansion at the ribs and the abdomen. When this has become a nat¬ ural reflex you no longer have to concentrate on the abdomen during inhalation.

Do not take in too much air

Even though you are using the diaphragm cor¬ rectly you may harm good breathing by continuing an inhalation until it raises the chest, Too much air is taken in, filling the lungs to capacity. This cre¬ ates the kind of unwanted tensions described in chest inhalation. Avoid this by practising expand¬ ing the lower ribs and solar plexus as much as possible, without raising the chest.

All singers are differ¬ ent. Some are happy with larger breaths of air, some with smaller. Practise inhalation until

you know how much air is comfortable to take in and hold. Practise this way of breathing until it becomes natural.

Posture

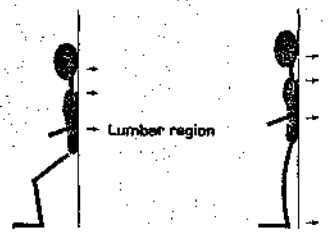
We have to develop the good and efficient breath¬ing we had as children. Toddlers have a straight posture that makes room for the movements of the diaphragm. If you allow your posture to slump there is not enough room for the diaphragm to expand, making its movements smaller and small¬er. This makes you begin to breathe in the upper part of the chest and the natural movement of the diaphragm disappears. An unused muscle always becomes slack and the diaphragm is no excep¬tion, so to strengthen it you must retrain your pos¬ture.

Try to 'grow' a few centimetres as if you are hanging from a string fastened to the top of your head. Straighten the curve of the back by pulling the lumbar region up under the body. If the back is not curved the abdominal muscles are better placed to do their job.

You must beware of over-stretching your knees, not because it is harmful for singing but because it is strenuous for the knee joints in general.

Practise pasture

Practise good posture by standing with your back against a wall, your lumbar region, shoulders, and the back of your head being in direct contact with the wall. You may bend your legs if you want to. Place your feet a short distance from the wall to ease the work of the muscles in your abdomen. If your head is sticking forwards or the upper part of your back is too rounded, place a small pillow between your neck and the wall. Now try to get your feet and legs as close to the wall as the abdominal muscles will allow while making sure that the lumbar region stays in contact with the wall at all times. It is important to be able to hold this position without too much effort. By focusing on the areas where the body is in contact with the wall you will obtain a better knowledge of your posture.



To improve posture push the head, shoulders, and lumbar region against a wall.
Gradually move your feet closer to the wall.

All singers have different bodies. Always adopt a posture in harmony with your body. Make sure that your posture does not feel unnatural as that would require too much concentration, leaving too little energy for the singing.

Resumé

- When you sing the idea is to hold back the out¬flow (exhalation) of air.
- With an inhalation the diaphragm tightens and lowers, the lower ribs are pushed outwards, a bulge emerges at the solar plexus, and the abdomen around the navel protrudes slightly.
- With an exhalation the diaphragm relaxes, the ribs come back in, the bulge at the solar plexus disappears, and the abdomen around the navel flattens.
- All singers are different. Some like to take larg¬er breaths of air and others smaller ones.
- Practise breathing until you know your limit of how much air you can comfortably take in and hold. Practise this breathing until it becomes natural.
- Always adapt a posture in harmony with your body and make sure it does not feel unnatural.

Support

The techniques in this chapter apply to both singers and wind instrument players.

Advantages ol an efficient support technique

Support is one of the basic elements in all types of singing. To develop your singing technique you often need a thorough understanding of support.

There are many advantages of efficient support. It can help promote:

- longer notes
- even tone production
- larger vocal range
- no hoarseness or wear
- greater volume
- control of vibrato
- control o f pitch

Delaying exhalation

Many singers think singing is all about expelling air. But if you release air quickly your singing will not last long. Whenever you speak or sing the exhalation must be delayed and the singer must take an active part in this delay, a process that for most people is unconscious. Exhalation must be controlled instead of being 'handed over' to the diaphragm which will just relax and release the air quickly. This control of exhalation is known as support. Support requires physical strength and body control.

Feel the outflow of air

Place a hand close to your mouth and exhale. Feel the outflow of air on your hand. Now add a note while exhaling just as before. Listen to how weak and breathy the note is.

Now sing a more powerful and sonorous tone and your hand will feel that less air is expelled. So in order to make sonorous and powerful notes you must hold the air back instead of letting it all out at once.

Forcing

Attempting to produce powerful notes during a large outflow of air is referred to as 'forcing' or 'pushing' your voice. This is very strenuous and usually extremely wearing. You can recognise 'forced' notes by hearing that the voice is breathy, even though the tone is powerful. Usually, you can also feel it on your hand. If a singer 'forces', s/he usually cannot sing for very long without getting a 'tired' voice or without it becoming painful.

Avoid 'forcing' by singing while holding back your breath. On your hand you will feel that the outflow of air decreases. Try to imagine 'singing inwards' or that you are 'drinking while you sing'. In the beginning the tones will often be less powerful but this is a natural step. Continue the training and soon you will be able to sing more powerfully with¬ out the noticeable outflow of air.

Support for speaking and singing is, in reality, an extension of the natural 'support' you use in everyday life, for example, when you are about to cough or scold someone. Notice how you hold back your breath as if to gather extra energy just before everything breaks loose.

In other words, singing and speaking is more like holding your breath than exhaling.

Feel the power of the diaphragm

Feel the opposition of the diaphragm that you, as a singer, are fighting when it wants to release air. Breathe in, hold your breath for a long time, and feel the enormous power accumulate as the diaphragm tries to release the air. In the end the diaphragm is 'stronger' than your will and, even though you resist, it will release the air. You can only partly control the diaphragm and obviously cannot hold your breath until you die. So it is difficult to hold back your breath, but easy to release the air.

Exercise with a candle

Early Italian singing teachers were conscious of the importance of the supporting technique. They put a lit candle in front of a student's mouth to check whether the support was correct. The flame was not to flicker while the student sang; that is just how little air should be released. This is how perfectly a singer must control her/his breathing. The less air released, the better the singing will be. (This also applies to when singing with air added to the voice, see Air added to the voice, page 186).

Natural support develops gradually until ^-adulthood. With small children the diaphragm still has the sole power of deciding when they should breathe. When children begin to speak they are not very good at holding their breath and sound short of breath, breaking words in odd places.

Do not take in too much air

The diaphragm works hard to release air, especially if you have taken in too much. You must, of course, take in enough to last for a long note or a phrase but if you take in too much you will not benefit from the extra air, as the pressure from the diaphragm increases accordingly. However, taking in a lot of air makes it easier to reach higher volumes but you must be very strong to control the pressure of the diaphragm. Only certain singers, such as Wagner singers, benefit from filling their lungs with so much air because they achieve maximum volume and also have the strength to hold back the air. You must be aware of how much air you need and how much strength you have to hold the air back. You may notice different songs need different degrees of support. Practise breathing with your OWN amount of air until it becomes natural.

If a singer has problems with her/his breathing it could be because the air in the lungs is not used up before more is inhaled. This often causes tensions due to the increased pressure from the diaphragm.

Sing some phrases and when you feel the need to inhale, exhale instead. Note if there was an extra amount of air that you did not use.

Supporting muscles

Diaphragm, ribs and their assisting muscles

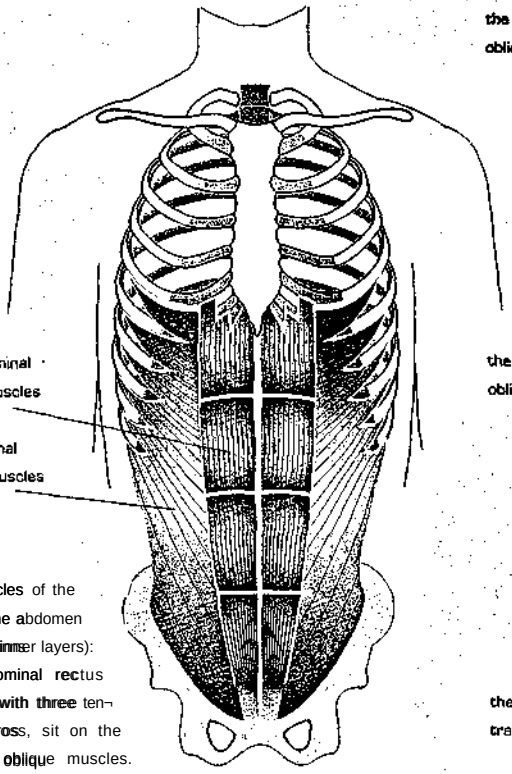
To control exhalation you must control the diaphragm. When the diaphragm is tightened and thereby lowered, the lungs are filled with air. When the diaphragm relaxes and arches, the lungs are emptied. The aim is to keep the diaphragm lowered in order to keep the air in.

. The diaphragm is attached to the lower ribs. During inhalation it tightens and lowers, pushing these ribs outwards. If you are able to keep the ribs pushed outwards for as long as possible during exhalation you have a better chance of preventing the diaphragm from relaxing and therefore letting out all the air. Various muscles help keep the ribs pushed outwards and help you hold on to your breath. To identify these muscles you should know the anatomy of the body.

Abdominal muscles

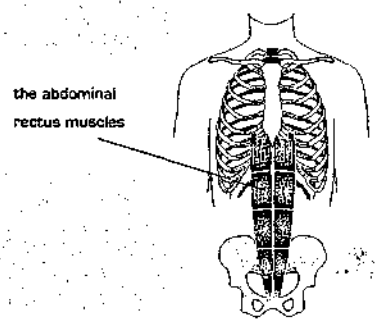
When the abdomen moves outwards the ribs move inwards. When the abdomen moves inwards the ribs move outwards. So the abdomen. has to move inwards in order to keep the ribs pushed outward. When you pull in the abdomen you use four abdominal muscles.

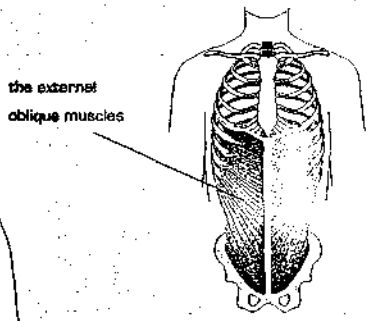
Outermost of these muscles are the abdominal rectus muscles which are positioned between the lower ribs and the pubic bone. Three tendons go horizontally across these muscles which - if you are slim and well trained - makes the abdominal rectus muscles look like quadrangular areas - the so called 'six pack[1].

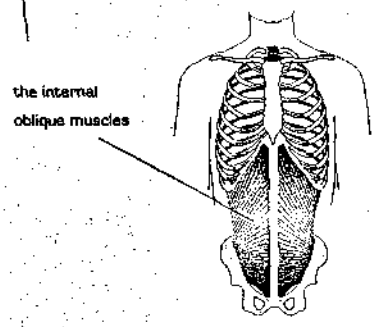


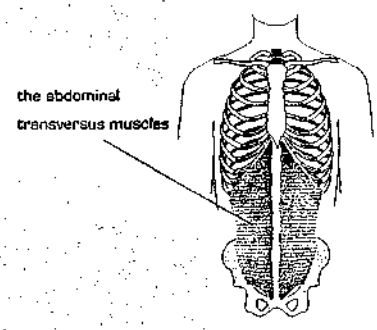
The muscles of the front of the abdomen (outer to inner layers): the abdominal rectus muscles with three tendons across, sit on the external oblique muscles. which sit on the internal oblique muscles, which sit on the abdominal transversus muscles.

The diagrams on the right shows each musle in isolation. The large diagram shows how they are put together. Note that in the large diagram the lower two layers are hidden.





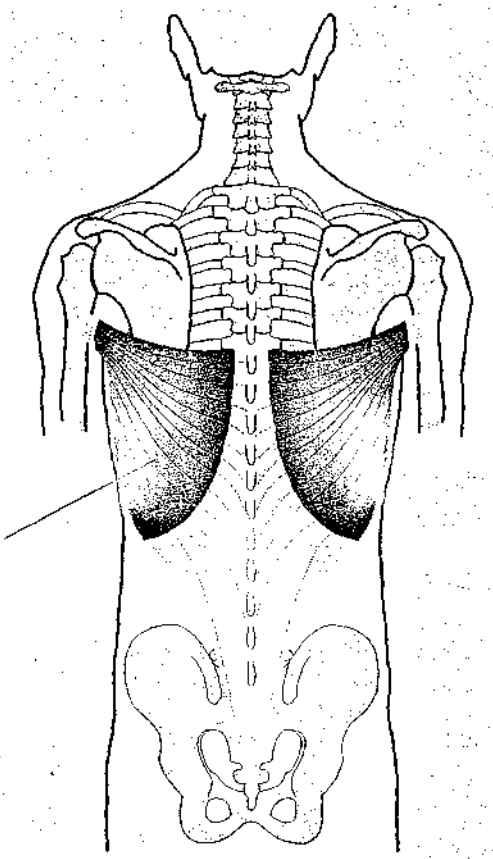




Behind the abdominal rectus muscle there are two sets of diagonal (oblique) muscles on both sides of the body. The outermost layer are the external oblique muscles which stretch between the ribs and the hipbone. Underneath are the internal oblique muscles which stretch between the edge of the ribs and the pubic bone. Behind all this, are the abdominal transversus muscle which runs across the abdomen.

Muscles ol the back

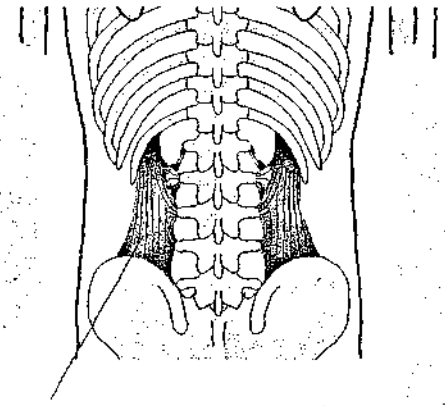
The large muscles *of* the back that stretch from under the arms to the hip socket are known as latissimus dorsi. These muscles help keep the ribs expanded at the back and, when tightened, !hey *create* the 'wings' you see on body builders.



Latissimus Dorsi

Muscles ol the loin

Sets of muscles known as quadratus lomborum are found in the loin (below). When these muscles tighten they assist the abdominal muscles in their work. You can locate them by curving the back and then straightening by pulling in the lumbar region. Feel how the muscles of the *loin* worijj and. how they make the abdominal muscles work.



Quadratus Lomborum

The interaction of the three groups of muscles

When we use these three groups of muscles (abdominal, back, and loin) together we support the ribs in their fight to. keep the diaphragm down in its lowered posi¬ tion. The interaction of these three groups of muscles is what we call 'support'.

'Assisting' muscles

At the beginning of new and difficult training, singers often tighten muscles other than those that *are* necessary. It is not uncommon to see lift¬ ed shoulders, curled toes, tightened buttocks, or clenched fists. They tighten these 'assisting' mus¬ cles in the hope of getting the correct ones - 'if it is difficult to isolate a specific muscle simply tight¬ en all of them', they think. You see the same thing when a weak person arm wrestles a strong per¬ son. S/he will tighten as many muscles as possi¬ ble whereas the stronger person tightens only the arm. In singing, it is often helpful to tighten these 'assisting' muscles until more strength has been built and the precise muscles can be tightened. Then you should avoid using 'assisting' muscles.

Muscle contraction

Some singers are told to feel their muscles by concentrating on specific places on the body. Ones awareness of muscles varies from singer to singer so instead of concentrating on a specific place it is better to become aware of which mucles should be working and how to locate these muscles. You may then be able to find another place where it is easier for you to feel the muscle. It makes no difference where in the mus¬ cle you concentrate as long as it is the right mus¬ cle you are working on. In general it is harder for tall singers to feel muscles far from the attach¬ ment points, than it is for less tall singers. If a singer has difficulty feeling a certain muscle con¬ traction, I suggest that s/he concentrate 'higher up' in the muscle, closer to its upper attachment point.

SUPPORT IS **HOLDING BACK THE BREATH**

IS DONE BY

HOLDING THE DIAPHRAGM DOWN

IS DONE BY

KEEPING THE RIBS EXTENDED

IS DONE BY

PULLING IN THE ABDOMEN AROUND THE NAVEL

TIGHTENING THE MUSCLES OF THE BACK

PULLING IN THE LUMBAR REGION

A CONTINEOUS MOVEMENT
AS THOUGH WORKING AGAINST A RESISTANCE

The very backbone of support

The resistance in support

To support a note you must realise that support is a continuous, dynamic phenomenon and that the movements should be 'as though they are work¬ ing against a resistance'.

To illustrate this resistance raise an arm away from the body and feel the work of the muscles in the arm. Now do the same thing but this time have someone push against the movement of your arm. You will feel the muscles work harder. Now raise your arm in exactly the same way without anyone holding it but this time create the resis¬ tance yourself so that the movement looks and feels as though it is pushing against a resistance.

Note this work of the muscles. It is this 'as though working against a resistance' that is the most important aspect of support. You will have experienced this 'as though working against a resistance' when you blow up balloons.

Support = Movement

It is essential to understand support as being a MOVEMENT, even though it is a small one. As long as there is a continuous movement, as though working against a resistance, there will be support for the voice. The more support needed, the greater the resistance should be. It is the resistance and the strength it takes that makes it possible to prolong this movement throughout singing. If the movement becomes static you will quickly run out of support. This 'static' state may actually require as much strength as true support but you do not profit from it because the muscles are locked.

The'inner'support

It is part of a singer's job to keep support strong and flexible and to find how to make the most of the energy used. This can be trained by discover¬ ing and using 'inner' support. This 'inner' support is so subtle and yet gives so much energy to the voice that it alone can provide all the energy needed. However, it often takes an experienced singer to find and use it.

Finding 'Inner' support

Placing your hands on your waist, cough and feel the muscles of the waist pushing your hands out¬ wards. Now press your hands inwards as strong as possible but without it feeling uncomfortable. Make a tiny contraction of the muscles you found by coughing and make them work as though against a resistance. Feel this tiny contraction. This is 'inner' support. Enlarge this support by contracting the muscles a little more. Eventually they will push your hands outwards. When this happens you have passed 'inner' support. Start again and feel the contraction (it might feel like the 'inner' support just meets the hands) but make sure it does NOT move your hands. The instant you feel your hands being pushed outwards there is only a little support left and you will soon run out.

This 'inner' support is very economical and you can achive much strength from solely singing with this support as you will have the rest of the move¬ ment (when the hands are pushed outwards) in reserve when needed.

If you find it difficult to locate 'inner' support do not worry. Just go ahead and work with the support described further on in this book. When you have achieved this you can always return to this chap¬ ter and refine your support by working on 'inner' **support.**

Feeling support

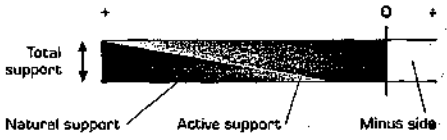
It is important to realise that the feeling of support may vary from singer to singer. I will, however, go over a number of ways of feeling support that have been most efficient in my work with singers.

Natural versus active support

To find the correct support for certain notes a singer has to consider her/his natural support. During correct inhalation, the diaphragm is tightened and lowered and will naturally stay there for a short period of time while the initial amount of air is released. This is known as 'natural support'. At this point the singer does not have to use physical strength to support because the diaphragm is already naturally tightened. But as soon as the initial amount of air has been released the diaphragm will want to relax and release the rest of the air. This is where a singer should gradually apply 'active support' to hold on to the air. Eventually, when almost all of the air has been released, the active support will be at its maximum. At this point, support can no longer control exhalation and air escapes irregularly. This often happens in small jerks and the tone becomes irregular and weak.

So ONLY use 'active support' when necessary. Conserve support at the beginning of a note or phrase. Do not apply 'active support' until your 'natural support' begins to fade. You will gradually have to work harder and harder and eventually you will only be using only 'active support'.

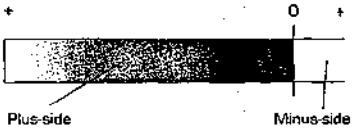
Natural versus active support



Feeling support and the zero point of support

It is very useful to be able to economise your support. This can be trained in the following way.

'Sensations' during support



Look at the accompanying diagram of 'sensations' during support. Begin to release a very small amount of air by making an 'sss' sound or a note, smaller than the diaphragm would like. The feeling at first is as though you are holding your breath. This is the plus-side. It does not require a lot of physical strength but feels like holding the diaphragm in check. At a certain point, whilst supporting and making the 'sss' sound or note, the pressure from the diaphragm increases and the feeling changes. This is the zero point. As you continue to make the sound the pressure from the diaphragm increases considerably and from this point on it gets harder to resist its movement. This is the minus-side. The singer usually feels as if the air needs to be pushed out. This feeling often lingers until the next inhalation.

So the longer the exhalation, the more difficult and harder it becomes to hold back the air. How long you can 'fight' the pressure of the diaphragm depends on your technique and strength.

In general the longer you are able to extend the feeling of holding back your breath - in other words the longer you maintain the plus-side - the better. When the feeling changes and you feel as though you are fighting to expel the air from the lungs you are getting close to having to take a new breath.

Feeling support at the solar plexus

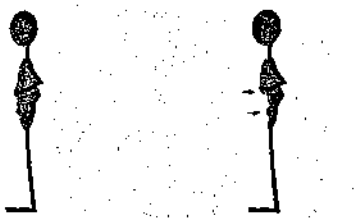
Placo one hand on the solar plexus and the other on your abdomen around the navel. When you exhale, normally the areas underneath your hands flatten.

When you inhale, normally the areas underneath both your hands expand.

When you use the supporting technique the upper bulge at the solar plexus must COME OUT, while the lower bulge at the abdomen around the navel must GO IN.

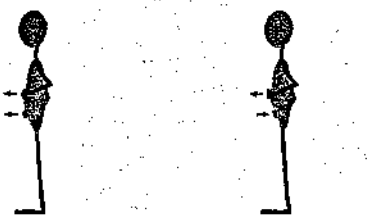
It may be difficult to make the two areas work opposite each other but practise slowly. If it seems difficult, start by making the bulge at the solar plexus expand as much as possible and let the abdomen around the navel follow and come out too. When the bulge at the solar plexus is as big as possible keep it there. If necessary increase the pressure from inside to keep it distended. Now carefully pull in the abdomen around the navel without letting the bulge at the solar plexus disap¬pear. The pulling in of the abdomen does not have to be particularly strong - just feel it draw in a little without allowing the solar plexus to flatten. Hold on to this feeling. When you become familiar with it you will notice an interaction between the solar plexus and the abdomen. The more the abdomen around the navel is pulled in (to a certain degree), the more the bulge at the solar plexus will pro¬trude. Familiarise yourself with this interaction and remember to maintain the sensation 'as though working against a resistance' as this work against a resistance is in fact the system of support.

You can now practise support slowly by moving the two hands back and forth, opposing each other, aided only by muscles and without inhaling or exhaling.



Place your hands.

When you exhale, the areas underneath your hands flatten.



When you inhale, the areas underneath your hands expand.

During support the upper bulge at the solar plexus must COME OUT, while the lower bulge at the abdomen around the navel must GO IN.

Feeling support at the waist

Placing your hands on your waist, cough and feel the muscles of the waist pushing your hands out¬wards. Contract these muscles without coughing, feel how the solar plexus also tightens (bulges) and then pull in the abdomen around the navel gently. When this feeling becomes famil¬iar, notice that when the abdomen around the navel comes in, the muscles of the waist and solar plexus go out.

Feeling support at the back

Placing your hands on your back by the lower ribs, cough and feel the muscles at the lower ribs of the back pushing your hands outwards. Contract these muscles without coughing. Gently pull in the abdomen around the navel. When this feeling becomes familiar notice that when the abdomen around the navel comes in, the muscles at the lower ribs of the back come out.

These three feelings of support (at the solar plexus, the waist, and the back) are different but they come down to the same physical process and are simply different ways of FEELING sup¬port. Note that no matter what feelings are used, it requires energy. Choose the feeling that seems to be the most efficient for you, or change between them.

Support as images and sensations

Become familiar with the feeling of support and try to relate this feeling to an image in your mind that you will always be able to recognise. Your per¬sonal images and sensations will always be best and the most efficient way of re-establishing the feeling of support.

You may be inspired by images and sensations that other singers or singing teachers have used but remember these images - as well as your own - are based on subjective feelings and do not have any connection with the anatomy of the body. Therefore, regard these images ONLY as educational tools. The following images and sen¬sations are of help to some singers but confusing to others. Use them if they appeal to you, but if you do not respond to them immediately, forget them. Again, do not confuse these images with what is happening in reality. Such images and sensations of support include:

- blowing up a balloon
- two muscles are working against each other and meeting in the middle
- pushing something heavy in front of you
- pulling your shoulders down rigidly
- being reserved, feel a resistance, an aversion
- in a dogged movement to separate two pieces of very strong tape
- 'pulling up' the uterus
- 'pulling up' through the rectum (mostly men)
- a flap attached at the navel tips down when supporting
- singing from a lower place in your body
- singing on a line inside without leaving this line

Incorrect support

You must be careful not to support incorrectly. This can be known as the 'lavatory support', meaning that while the bulge at the solar plexus is distended the abdomen is also pressed outwards - as if you are going to the lavatory. If this happens there will be a strong pressure on your abdomen and bowels which can trigger constriction in the throat (try to imitate going to the lavatory and feel the constrictions when you push out your abdomen). If this happens while you are singing it could harm your voice. In general, you must avoid pressing down on the abdomen. In women, pro¬longed increases in abdominal pressure can lead to a prolapse of the uterus. Many wind instrument players have developed hernias by pressing hard on the abdomen whilst trying to support. In gen¬eral, no pressure should be present in the abdominal cavity.

Support must not fee! like going to the lavatory.

The difference between correct and Incorrect support at solar plexus and abdomen

Pregnant singers or singers with abdominal problems should avoid this exercise.

Place one hand on the solar plexus and the other on the abdomen around the navel. Exhale and feel how the areas flatten under both hands. Breathe in and feel how they both expand.

With incorrect support, the pressure outwards is maintained on BOTH the solar plexus AND the abdomen around the navel. Feel how pressure is put onto the abdomen and how the throat constricts.

Incorrect support

You must change incorrect support into correct support by gently pulling in the abdomen around the navel while the bulge at the solar plexus remains.

Correct support

The difference between incorrect and correct support at the waist

Pregnant singers as well as singers with abdominal problems should avoid this exercise.

Place your hands on each side of the waist. Feel how, when you cough, the muscles of the waist push your hands outwards. In incorrect support BOTH the muscles at the waist AND the abdomen around the navel are pressed outwards. Feel how pressure is put onto the abdomen and how the throat constricts.

You must change incorrect support to correct support by gently pulling in the abdomen around the navel while the muscles at the waist remain extended.

Hidden Incorrect support

Even though it may seem as though you are supporting correctly - by pulling in the abdomen around the navel - you still run the risk of producing incorrect support. If you are pulling in the abdomen too vigorously, making it too firm, this is also a type of incorrect support. It is known as 'hidden incorrect support' and is more difficult to detect than 'incorrect support'. Usually it is revealed when a singer tightens the abdominal muscles without producing any positive results in the voice. In 'hidden incorrect support' you can usually hear the throat constrict and the singer often feels a strong pressure on the solar plexus and abdomen.

If this is happening it is usually because the singer believes it really takes this much strength to create support. Even though they tighten their abdominal muscles more the sound does not improve. In an attempt to support even more the singer continues to increase the pressure. Finally s/he concludes that the problem could be due to overdoing the support.

Neither of these two conclusions are correct. There are no support at all. In fact, what the singer believes to be support has become muscular tension and, however much it is intensified, it will not improve the support or sound. The body has lost its control of the diaphragm which will have released most of the breath of air and the work of the abdominal muscles is in vain. 'Hidden incorrect support' is experienced as a feeling of hardness in the abdomen around the navel, as with incorrect support. The only difference between 'hidden incorrect support' and 'incorrect support' is that in 'hidden incorrect support' the abdomen around the navel is pulled in.

Feeling the dllloronce between incorrect, hidden Incorrect, and correct support

Place one hand on the solar plexus and the other on the abdomen around the navel. Exhale and feel both hands move inwards as the air is released from the lungs. Then breathe in and feel how both the solar plexus and the abdomen around the navel expand.

- With incorrect support the solar plexus and the abdomen around the navel are both pushed outwards.
- With hidden incorrect support, the solar plexus remains extended while the abdomen around the navel is pulled in. Even though the abdomen around the navel is pulled in, it is hard and tense as if it is still being pressed outwards (to demonstrate this make the abdomen around the navel hard without pushing it outwards).
- With correct support the solar plexus remains extended, while the abdomen around the navel is gently pulled in. It is a pull inwards, not a push outwards.

How to release hidden incorrect support

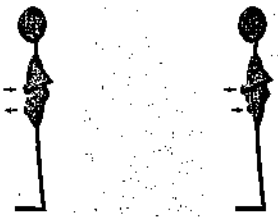
It is important you know how to release the ten¬ sion and replace hidden incorrect support with correct support at any time.

Harden the abdomen around the navel. Then relax the outward pressure and note how it is pos¬ sible to gently pull in the abdomen even further. You should become familiar with this feeling of releasing 'hidden incorrect support'. Almost all singers need to do this at one time or another while they are working on support. If you have not economised your strength sensibly, you easily run the risk of leaving your abdominal muscles tense - the 'incorrect support' or the 'hidden incorrect support'.

Support training

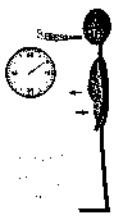
Try to tighten the diaphragm **without breathing.** Expand the ribs at the sides and **back, pull** In the abdomen around the navel, tighten **the muscles** of the back (the 'wings'), and straighten out the curve of the back by pulling in the lumbar region. Practise this until you become familiar with how each muscle works and how all the movements can be com¬ bined into one sensa¬ tion.

'Rock' the support, while holding your breath. Place one hand on the solar plexus and the other on the abdomen around the navel. Pull in the abdomen while maintaining the bulge at solar plexus. 'Rock' the solar plexus and the abdomen back and forth alternately.



'Rock' the support

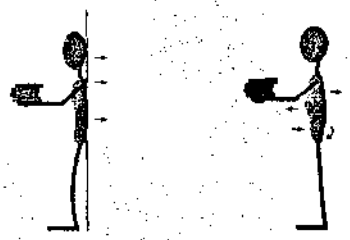
Exhale and then inhale. While exhaling make a quiet 'sss' sound with your tongue. This 'sss' sound must be even and last as long as possible, so hold back the exhala¬ tion. Feel how the bulge at the solar plexus grad¬ ually comes out more and more while you sus-



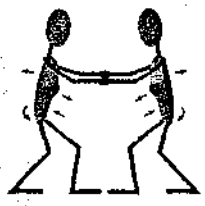
tain the 'sss' sound. The bulge must not diminish. Also push out the ribs and gradually pull in the abdomen around the navel, straighten the curve of the back, and keep the muscle of the back tightened. Sustain the feeling of holding back your breath while the air is gradually released. You should continue training until the 'sss' sound lasts for one minute. Q 51a

You can also control your support by holding a piece of tissue paper in front of your mouth. Exhale, inhale and make a slow and even exhalation. The tissue paper should not move during the exhalation; that is how perfectly you should be able to control the outflow of air. Follow the instructions for the previous 'sss' exercise.

Physically strong singers can practise support by lifting something heavy and holding it at a distance from their body while sustaining the 'sss' sound. Be careful not to curve the back, keep the abdomen around the navel pulled in, and the bulge at the solar plexus extended. You can begin by standing against a wall, pressing head, shoulders, and loin flat against it. When you can achieve this posture move away from the wall and repeat the exercise. Follow the instructions for the 'sss' exercise.



Two singers training together can pull each other as though in a tug-of-war while sustaining **the** 'sss' sound. Stand in front of each other and **hold** hands. Put one foot in front of the other and bend your knees slightly while you pull each other EVENLY. Do not make sudden jerks but pull steadily. The pull becomes harder, the longer you withstand it. Feel the points of support: the bulge at the solar plexus is extended, the abdomen around the navel is pulled in, the back muscles are tightened, and the lumbar region is pulled up under the body. Follow the instructions for the 'sss' exercise.



Energy

The techniques in **this chapter apply to both** singers and wind instrument players.

Singing requires energy

It is important to realise that whatever the mode or style of music it requires energy to sing in a healthy way. The myth that EVERYTHING in your body must be relaxed and loose when you sing has caused much harm. In my experience, more voice problems have arisen from using too LITTLE physical energy than from using too much.

When beginners have problems reaching high notes it is often because they are afraid of using physical energy or simply because they lack it. They falsely believe that singing must be a relaxed process because that is what they have been told. Once they learn to use more energy and to sweat during singing, many problems dis¬appear.

(t is a Utopia to believe that singing is a relaxed process with no need for physical strength. To sing in a rough, raw, or powerful manner requires even more physical strength.

A case story

A large, well-built rock singer had a bad inflammation of the throat about six months ago. Although the spe¬cialist doctor had declared him well after about two months he still had not regained his voice. He had con¬sulted singing teachers and speech therapists who advised him to be careful with his voice, giving him gende cautious exercises. These had not helped and he still could not sing as he used to.

When he sang he produced the faintest note which seemed absurd in comparison to how he looked. I asked him to try with more energy as singing requires strength and hard work to be done healthily. After half an hour of supporting correctly and working on singing loudly his voice was back again.

During all those month he had simply suppressed his voice out of caution.

The dilemma between looks and physical strength

To satisfy commercial demands of being attrac¬tive, female singers are often expected to be unnaturally thin. Many female singers live close to starvation which conflicts with the demands of being in good shape to sing. Male singers do not usually experience such problems as it is fashion¬able for them to be in good shape.

On several occasions I have been called to assist on a difficult vocal assignment only to con¬clude that it was impossible until the singer was stronger. This applies to both sexes.

Another problem is that many female singers do not use their physical strength because they feel they have to appear 'cute'. When you ask them not to conform to the 'feminine' role a different and more direct sound emerges.

And remember:

- Singing must ALWAYS feel comfortable
- The technique must have the intended effect right away, otherwise you are not working cor¬rectly
- If an exercise hurts, feels uncomfortable, or wrong - then it IS wrong. You are the only one who knows how it feels, so trust your feelings

Using support

The techniques in this chapter apply to both singers and wind instrument players.

Developing a connection between support and sound

Place your hands on the sides of the ribs at the lower end of the chest and feel how the ribs remain extended throughout support if done correctly. At the same time keep the muscles at the solar plexus and the waist in a gradual, physical expansion for as long as you are producing a note. The production of sound must automatically be linked to this OUTWARD movement at the solar plexus or waist. This should help you to develop a connection between support and sound. When you have become familiar with the feeling of supporting - as though working against a resistance - you can use this feeling to test if your are supporting efficiently.

Conserving support

An important part of successful supporting is to be economical with it. It is important to conserve energy so that you have enough support for the last few words and notes in a phrase.

Try to support 100%. Feel, for instance in the waist, the physical sensation from 0 to 100%. The hands move about 3-4 cm on each side. Then try to support in steps, first 10 %, then 20%, then 30%, and so on. Be sure not to reach the maximum of the movement before you need 100%. During this exercise most singers realise how easy it is to waste support before it is actually needed.

Support values

Support values are a measure of how much energy is used for supporting. Support values depend on many different factors including pitch, volume, vowels, sound colour, time (since the last inhalation) and vocal mode (see Vocal Modes, page 74).

All singers differ in their physique, strength, energy, stamina, and voice control. That is why the support value needed for a given note varies from singer to singer. Each singer's work with support consists of becoming familiar with her/his individual support values and training to use the right amount of support for each note or phrase.

It is important that a singer knows her/his exact support value for each note in all contexts so s/he can always control the singing - just like all other musician have to know their instruments.

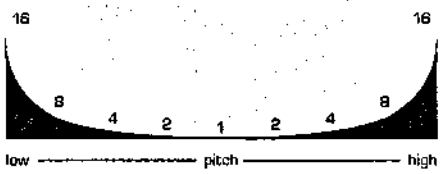
Start by finding how much energy you have. Give it a value. When you use no energy call it 0. When you use all the energy you have call it 100. Now practise being aware of the gradations between 0 and 100. Start by dividing the energy into ten equally sized parts. Practise finding an exact energy. Later you can divide even more precisely.

This work will give you a great awareness of your body and energy. When you become aware of the exact support value to a note it becomes much easier to reach.

Pitch

If you have difficulties producing high notes it is often because you are not using the right amount of support. It is important to develop and practise a conscious awareness of the particular energy required for different notes.

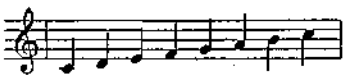
If notes do not get their required support value the throat constricts and the notes are impeded. The high and low parts of your voice usually require more energy than the middle part and therefore are usually more difficult to sing. Give each energy a specific support value. Singers must be familiar with the minimum support they require for each note.



Be familiar with the support values required for each note

Exercise (or support values of high notes

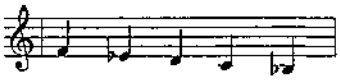
Sing an even scale from the middle part of your voice up an octave (eight notes) regardless of the mode (see Vocal Modes, page 74). All the notes should have the same volume and the throat should not constrict. Feel how supporting the higher notes requires more energy. Give each energy a specific support value and become familiar with your own support values. Repeat the exercise begining half a note higher each time, (fill 57a



Sing up an octave

Exercise lor support values ol low notes

Sing an even scale from the middle part of your voice down five notes, regardless of the mode (see Vocal Modes, page 74). Be sure that all the notes have the same volume. Feel how the lower the note, the more strength required for support. Give your efforts a specific support value and become familiar with them. Repeat the exercise begining half a note higher each time, ex.57b



Sing down five notes

Exceptions

Support values vary from singer to singer. Very 'light' sopranos, for example, often find it difficult to sing in the middle part of their voice and there¬fore need extra support energy here. You must become familiar with YOUR own support values.

lime factor

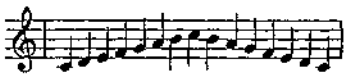
The time since the last inhalation is also a factor when working out support values. The longer the time, the more the diaphragm will try to release air. In other words, the longer you sustain a phrase or note, the more support energy required to keep the diaphragm down. It is important to conserve your energy so as not to use too much at the beginning of a note or phrase.

Exercise for support values of long notes

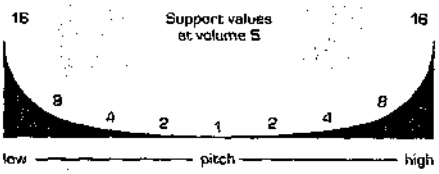
Sing any note and sustain it for a long time. Feel how much support energy is required to keep the throat open at the beginning of the note. Give this energy a support value, for example 5. Feel how, little by little, as the note continues the support value of 5 is no longer sufficient. Now you must add a time factor and the total support value must rise (5 to 6 to 7, etc) to avoid constricting the throat. In general, the longer a note is sustained, the higher the support value needed. ex.57c

Exercise for support values o(pitch and time (actor

Sing an even and legato scale from the middle part of your voice up and down through an octave in any mode. Be sure that all the notes have the same volume and the throat does not constrict. Feel how the higher the notes the more physical strength the support requires. Gradually the time factor intervenes and the end of the scale requires higher support values. In general the support value reaches a peak on the highest note of the scale and this value should be sustained all the way through the descending scale. Continue to repeat the exercise begining half a note higher each time. 57d



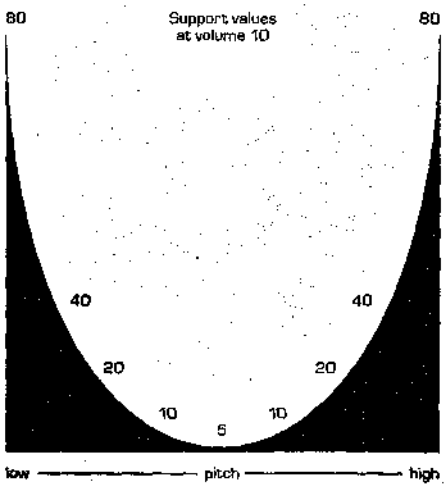
An octave scale



Exercise lor support values of volume

Support is NOT equal to volume but singing at a higher volume often requires more support. This becomes more pronounced the higher or lower you sing from the middle part of your voice. If you choose a powerful volume rather than a weak (to a certain point) the support value for any note usually increases. Give the volume a *value* between 1 to 10, where 1 represents very quiet (pp) and 10 represents very loud (ff). The support value needed for the note must be multiplied by the value of the volume. In other words, if you choose volume 10 instead of volume 5, the sup¬ port value needs to be five times greater. If a note at volume 5 requires 8 support values, it will require 40 at volume 10. Continue to repeat the exercise begining half a note higher each time and later half a note lower each time and later. ^ 57e

It requires a large amount of support for singers to produce high notes at high volumes. This is where the physical shape and condition of the singer becomes important. The work of a singer is not about body consciousness and control alone but about strength and stamina too. Strong singers in , good shape are usually able to sing higher and more powerfully than less fit ones.



Notice, It Is voiy difficult to sing In vary quiot vol¬ume (pp), therefore this requires a largo amount of support energy (see Pianissimo and thinning, page 58).

BB lamIIlar with the oxact support you need

A skilled singer must be familiar with her/his sup¬port values for every single note with regard to pitch, time, volume, vowels, and so on.

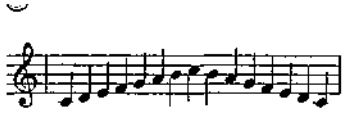
You must practise the support values until your body, by means of muscular memory (see Muscular memory, page 10), figures out how much support value is required for a given note in a given circumstance. This is the main objective of singing exercises.

Connection between note and support

Learn to feel the connection between the note and the support. Notice how, to avoid constrictions, the bulge at the solar plexus or waist has to move outwards as though working against a resistance as you reach and hold higher and more powerful notes. You will find that when you fail to support - when the muscles at the solar plexus or waist relax - the notes become weak or restricted.

Humming nxorclso tar support values

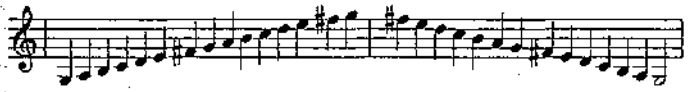
You can practise support values by humming up and down through an octave scale. Remember to conserve energy for the highest note and the descending scale. Make sure that you have enough strength to move the bulge at the solar plexus or the muscles of the waist outwards as though working against a resistance as the notes become higher. Many singers find it difficult to hum because even the slightest tension constricts the throat and makes the notes disappear but humming is a useful excercise - you can discover constrictions instantly. If a note fails, try again with a bit more support or with greater emphasis on conserving energy for the higher notes. Continue to repeat the exercise begining half a note higher each time. ex.1



An octave scale

Humming through two octaves

Once you have perfected humming through one octave you can extend the exercise by humming through two. Hum an even scale up and down through two octaves. Make sure that all the notes have the same volume, and that the throat does not constrict. Notice how important it is to con¬serve energy and support. Continue to repeat the exercise begining half a note higher each time.

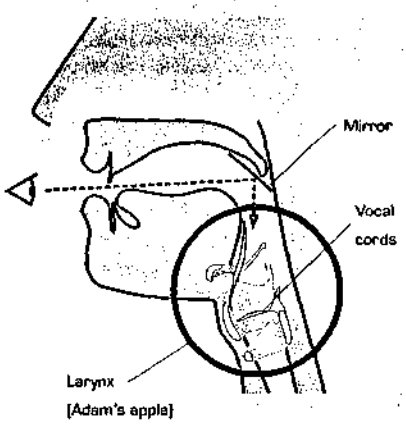


Two octaves

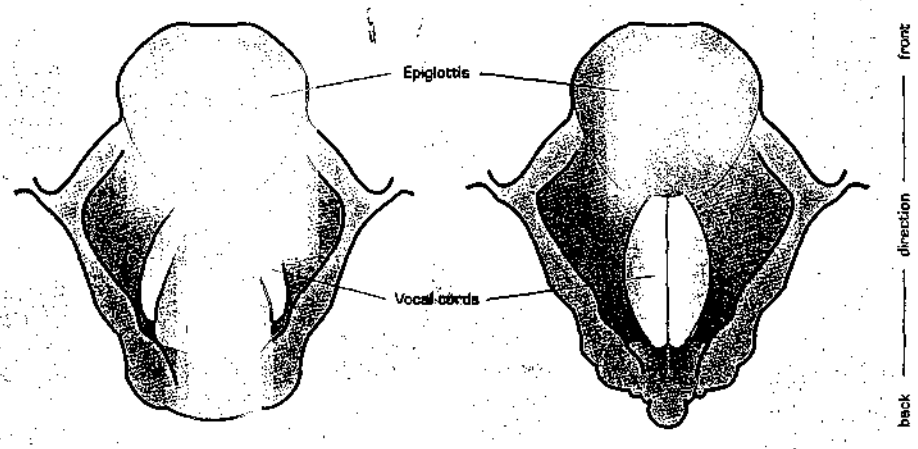
The Vocal Cords

Ttia larynx

The vocal cords are positioned Inside the larynx which is also known as the Adam's apple. It is here that sound is produced. The vocal cords are positioned above and across the windpipe (tra¬chea). When we breath without sound the cords open up and air passes between them in and out of the lungs. We can choose to pull the vocal cords together as we exhale. This makes the cords and their mucous membranes vibrate and produces sound.



Looking down the throat with a mirror as shown at the daigram **above.**



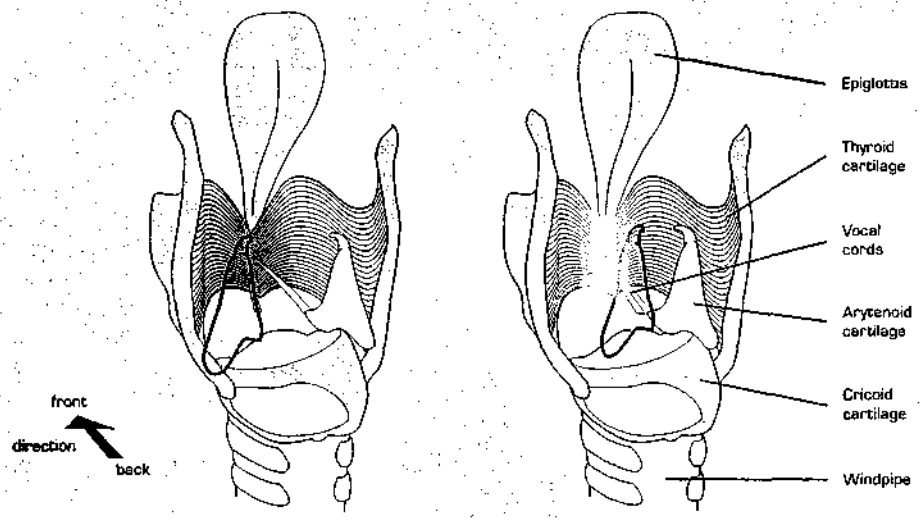
Inhale/exhale

Producing sound

Anatomy ol the larynx

The larynx consists of numerous parts. The 'thyro¬ id cartilage', positioned around the front of the vocal cords, serves to protect them and creates the pointed structure you can feel in the front of your neck (the Adam's apple). Inside this pointed structure, the vocal cords are attached together at the front. They are positioned above and across the windpipe. At the back the two vocal cords are attached to an 'arytenoid cartilage". The arytenoid cartilages sit on the rim of the 'cricoid cartilage' which is the top of the windpipe. It is, in fact, the arytenoid cartilages that move from side to side, opening the vocal cords when we breathe, or closing them when we speak or sing. The ary¬ tenoid cartilages are also able to tilt up or down, thereby stretching the vocal cords. The stretching of the vocal cords is known as 'lengthening' and regulates pitch.

The eplgloltls Is **attached to** the front of the upper rim of tho thyroid cartilage. When we swallow, food slides down over the tongue pushing on to the epiglottis. This forces the epiglottis to tip back¬ wards and downwards, providing a bridge for the food to travel over **the** trachea (windpipe) and into the oesophagus (food pipe). Once the food has passed, the epiglottis returns to its original posi¬ tion, standing up from the thyroid cartilage, wait¬ ing to provide a bridge for the next mouthful of food. It is the epiglottis that stops us from 'breath¬ ing in' our food and choking (see Swallowing, page 45). The hyoid bone is positioned at the very top, attached to the thyroid cartilage and the epiglottis.



Inhale/exhale

Producing sound

The bones and catillages of the larynx as seen from the back of the neck. The left arytenoid cartilage is transparent (red) to enable you to see the vocal cords attached together with the thyroid cartilage

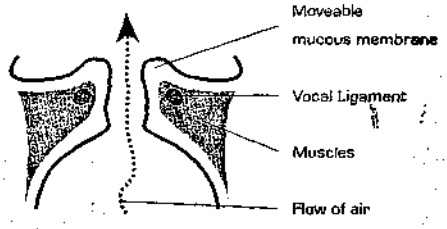
Sound

Sound is vibrations or pulsations in the air. The faster these pulsations, the higher the pitch. You define the pitch by the number of pulsations per second, also known as Hertz (Hz). It is the vocal cords and their mucous membranes that create the pulsations with which we speak or sing. The note 'a1' is equal to 440 Hz, so to sing 'aV our vocal cords and their mucous membranes must vibrate 440 times every second!

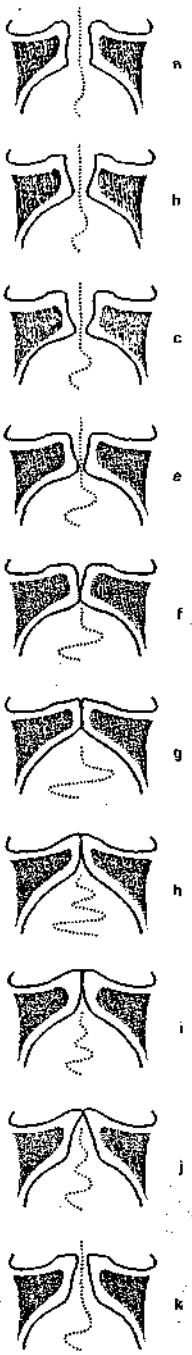
Vibrations ol the vocal cords, compression and volume

The vocal cords are two ligaments controlled by muscles and .arytenoid cartilages. A moveable mucous membrane is situated around the liga¬ments and their muscles. This membrane creates sound through its movements. The larger the vibrations the more powerful the volume.

Cross section of the vocal cords



One pulsation/vibration



The vocal cords form a narrowing of the air pas¬sage (a). When the air current passes through this narrowing, a partial vacuum is created that brings together the membranes of the vocal cords (b-e). (The same effect occurs when a bus passes you at great speed - you get sucked in behind it). The *moment* the membranes close is called the closed phase (f-j). The suction movement making the vocal cords close starts at the bottom of the nar¬rowing and moves upwards *in* a rolling motion. With the cords closed, the flow of exhaled air decreases, and so the vacuum decreases. Therefore, the vocal cords seperate [k]. Now the cords have completed one pulsa¬tion/vibration and are ready for the next. To put it short: the air current creates a partial *vacuum* that brings together the membranes, by this the

air curnont and vacuum aro stopped, which separ¬ates tins voc.nl cords.

Al the note 'a1 (ho mucous membrane vibrato 440 pulsations per socond, find this requires a very slnble spood of air currant. Tho faster (he exhaled air, Iho stronger tho vacuum, the harder (ha vocal coals close, and Iho bigger their move¬ments - and so the louder tho sound. However, this can not go on forever. At some point the air is exhaled so strongly that it is forcing the mem¬branes apart. Now to bring the cords together takes effort and this can only be done *with mus¬cular* tensions. And now the singer gets into prob¬lems. The muscular tensions limit the movement of the cords and so limiting the volume. This is called 'forcing' the voice and causes much dam¬age.

So there is a limit to how fast the air is to be *let out* while you sing. Above this the voice does not work well. Even at very loud volume the speed of the air current should not be faster than it still feels like you are holding back the air. This is why correct singing always feel like holding back the air. This control of exhalation is achieved by supporting.

To keep the speed of the air within the range where the vocal cords can move freely is like bal¬ancing on a tight rope and requires support ener¬gy. When you reach the extreme ranges of voice and volume, this balancing act becomes even harder. On very powerful tones the danger of 'forcing' is great.

On very quiet tones it is often more difficult to maintain the opening of the throat, and here even a minor change in the speed of the air may inter¬rupt the refined vibrations.

So the work of supporting powerful and quiet tones is both physically and technically demand¬ing. It is *not* enough for the singer to be technical¬ly skilled; s/he should also be in excellent physical shape.

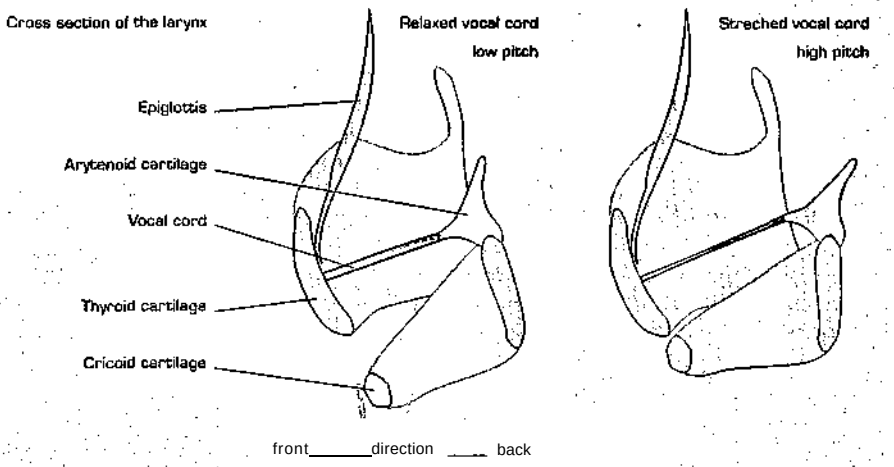
Mwcular lonslnns

The work of Iho vocal cords Is a very reflnod process and II does nol lake much to spoil these dollcato, rapid movements. The aim for singers is to give tholr vocal cords the bost possible working conditions - by controlling tho outflow air and pre¬venting constrictions In tho throat.

A solid support technique is vital. Otherwise the membranes of the vocal cords grow weary from tho constant pressure of air. A consequence of this might be tired permeable vocal cords, vibrat¬ing *irregularly. It is* very strenuous for Ihe muscles of the vocal cords to keep them together while there Is constant pressure from outflowing air. Another consequence might be constrictions around the vocal cords. These constrictions might lead to wear or incorrect technical functions that eventually cause hoarseness and an inability to reach a desired pitch.

Regulation ol pitch

When we produce high and low notes the vocal cords are tightened and relaxed by the move¬ments of the arytenoid cartilages and a number of muscles. This is how pitch is regulated. When the vocal cords are stretched by the arytenoid carti¬lages they vibrate more rapidly and produce a higher note. On low notes the vocal cords are relaxed, they become short and vibrate more slowly.



Movements of Hie larynx

The position of the larynx varies depending on whether you are producing high or low notes.

As a starting point:
THE LARYNX SHOULD ALWAYS BE RAISED ON HIGH NOTES AND LOWERED ON LOW NOTES.

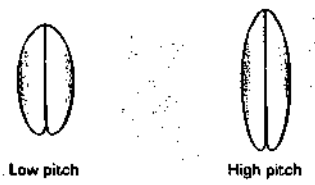
If a singer maintains the larynx in too low a posi¬tion, high notes become unreachable. It is essen¬tial not to fix the position of the larynx but to let it reach the right position for the pitch (see The Larynx, page 156).

The Throat

The area between the soft palate (velum palatinum) and the nasal cavity (nasal fossae) is called the nasopharynx. The area between the soft palate and the hyoid bone is called the oropharynx. The area between the hyoid bone and the vocal cords is called the laryngopharynx. Subsequent references to the throat include in particular the laryngopharynx.

Constrictions

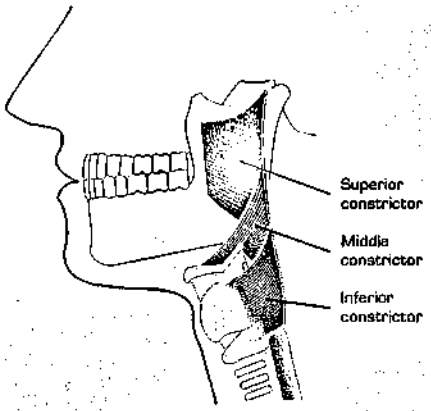
It is not difficult for the vocal cords to stretch or slacken but it becomes difficult if they are obstructed. An obstruction is any unwanted con¬striction that prevents the vocal cords from stretching and this makes it difficult to reach high¬er notes. A singer will try even harder to reach the note, often worsening the constriction. Eventually the vocal cords will not stretch at all. The singer concludes; 'I have a low voice, I am unable to reach the high notes' but this is not the case! The reason why high notes fail is not vocal inability but constriction around the vocal cords, robbing them of the space required to stretch and create the high notes. These constrictions are caused by the constrictor muscles of the throat.



The vocal cords strech on high notes
and relax on low notes

Swallowing

The task of the constrictor muscles is to protect the vocal cords and windpipe (trachea) during swallowing by stopping food from entering the



The constrictor muscles

windpipe - 'going the wrong way', so to speak. As we swallow, the upper constrictor muscle creates a ledge at the back of the throat to stop the food going up the nose. As the food slides down the back of the mouth it pushes on to the epiglottis, forcing it to tip backwards, providing a bridge for the food to travel over the windpipe and into the gullet (oesophagus). The larynx pulls itself up a lit¬tle to the back of the tongue so that food can enter the gullet easily. Once the food has been swal¬lowed the lower constrictor muscle closes off the top of the gullet so that food can not be regurgi¬tated back into the mouth.

If you speak and eat at the same time food can easily go down the wrong way. When you speak the epiglottis stands up and the windpipe is open so it does not take much for food to enter the windpipe.

Strain op (right

The constrictors of the throat also protect the vocal cords if a singer is exposed to great strain. The throat constricts if, for example, we lift some¬thing heavy or become frightened. Constriction of the throat is quite practical when we lift something

because it prevents a strain on the vocal cords but it is very impractical when we want to sing as the vocal cords must have room to stretch.

Constrictions of the throat are the singer's main enemy.

Achieving an 'open throat" with support

Singing requires physical strength but this can constrict the throat. We must therefore 'cheat' the constrictors of the throat into not constricting even when we sing technically difficult and physically demanding material. This is called keeping an 'open throat'. By definition, an 'open throat' means not constricting. When the throat is open the stretching of the vocal cords is unhindered, the pitch is secure, and wear or fatigue of the vocal cords is avoided.

Basically, singing techniques are about keeping an open throat and this is obtained by, among other things, using support. With efficient solid support we can use lots of physical strength without the throat constricting. A skilled singer knows the feeling of constriction and is able to avoid it in all situations.

in the beginning, when achieving an opep throat, it might be helpful to feel the uvula moves upwards (like when you gurgle) and the very back of the tongue lowers itself a little. This might produce a yawn. Try to locate this feeling and practise holding on it while you sing. This is done by using support correctly.

Later you need not maintain the feeling of a yawn when singing. The feeling of a yawn is meant as a guide to finding the open throat. The feeling of a yawn is NOT the same as the feeling of an open throat. An open throat does not have a specific feeling.

The 'open throat' as images and sensations

Remember that images and sensations are only *meant as* a guide. If *you* do not respond to them immediately, forget them. Again, do not confuse these images and sensations with what is really happening!

You *can* work on achieving an open throat:

- when you inhale for a yawn or a sneeze
- when you sob
- when you laugh silently
- when you are surprised
- when you get a good idea but cannot make yourself heard
- when you swallow somthing big
- when you let the palate stay in the same position on all vowels
- Feel how the uvula moves up and forward, almost touching itself to make more room. Then 'stretch' the palate out towards the ears as if sobbing. Press down on the uvula from behind'
- Imagine a small, low-ceilinged room, as wide as possible, above the uvula. The room 'stretches' from ear to ear and if you press down on the uvuia you may provoke a yawn
- Feel where you contract near the ears when you bite into a lemon
- Feel the position of the uvula when you gurgle. The back of the tongue is lowered and this may provoke a yawn
- Imagine a square throat

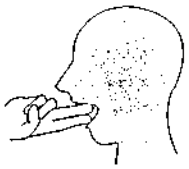
Imagine a square throat

- Lift the corners of the mouth slightly, as if you were making a small, secret smile. Tighten the area around the molars in the upper part of the mouth and raise the palate
- Imagine there is air above the innermost molars in the upper part of the mouth

Watch out top what triggers on constrictions

Even if you support and keep an open throat there are still a few things to watch out for. If you tighten the lips or the jaw they will trigger off constrictions that lace up the throat.

You must be careful not to clench the teeth or tighten the jaw while singing, especially when you sing high notes. This may produce constrictions and prevent the vocal cords from stretching. If you are not sure if you are opening your mouth enough when you sing high notes, try placing one or two fingers between the upper and the lower teeth while you sing. Biting on these fingers is a sign of muscular tensions. Practise singing without biting your fingers (see Opening the Mouth, page 54).

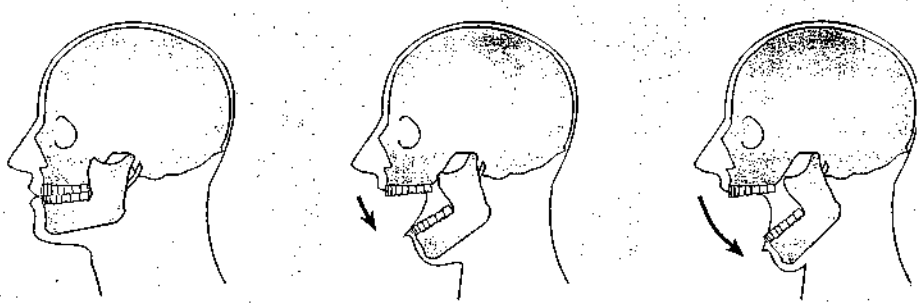


Biting your fingers on high notes may indicate muscular tensions

The position of the lower jaw

When you sing you must be careful about the position of the lower jaw. If it is pressed outwards it might produce constrictions around the vocal cords.

The natural opening of the jaw is in an INWARD and downward not an outward motion. The lower jaw is attached to the upper jaw by a joint that naturally turns the lower jaw downwards and inwards when the mouth is opened. You must always make sure that the lower jaw is never thrust forward when you sing.



When the mouth opens the lower jaw moves downwards and inwards

Finding UIB correct position ol tho Jaw

You can locate the correct position of the jaw by pretending to fall asleep on a bus with your head tilted backwards. Notice how the lowor jaw is pulled inwards compared to tho upper jaw, leaving room for a finger to fit between the back of tho upper leoth and the front of the lowor teeth. Koop the finger between your jaws, raise your hond, and familiarise yourself with this position. Feel how the lower jaw moves away from the finger more and more as the mouth opens more widely.

Find the correct position of the lower jaw

Sing with the finger between your jaws. If the lower teeth press against the finger there is a risk of constriction. Notice at which points in a song you press the lower jaw outwards and for what reasons. You must practise removing these con¬strictions.

The lower jaw **should be** pulled inwards **compared to** the upper jaw

You may also feel the position of the lower jaw by leaning the head back and placing your hands on your cheeks. Feel the position of the jaw, raise your head, and make sure your jaws are kept in this position whilst singing.

AvoIrilno topiBimiH In tho lips

Tonaloivi In tho lips may also produce tensions around tho vocnl cords. It Is acceptable for tho lips to tighten on consonants as thoy only last a very short time. However, when a note Is sustained It Is almost always on a vowel and here It Is Important to keep the lips relaxed.

Practise In front of a mirror and notice nt which point the lips tighten. It Is all right for the lips to tighten in the lower part of your voice but avoid it in the higher part. You should practise making dis¬tinct vowels without tightening your lips (see Pronunciation, page 49 and Opening the Mouth, page 54)

Pronunciation

The tensions of the language

Most singers have individual tensions but they also have 'language tensions' which are inherent to their language. Every language has charateristic tensions and most singers unconsciously work these into their voice through many years of using the language. Language tensions should not to be confused with accent although.

If these tensions obstruct singing they can lead to misuse of the voice and so have to be released. As language tensions are derived from language which ones trouble a singer will depend on her/his nationality. That is why you can often recognise the nationality of a singer by her/his tensions regardless of the language sung in.

To avoid tensions you can practise specific placements of the tongue on each vowel. With this you mainly use the tongue to form the vowel sound, reducing the work of the jaw and lips. Hereby you can avoid tensions in the jaw and lips which often trigger constrictions and obstruct singing.

In this chapter I will go through how to place the tongue to produce vowel sounds so as to avoid tensions.

Focus on the position of the tongue

It is important not to harm the distictiveness of a language when you alter the characteristic tensions of a language. You have to alter HOW the vowels are produced by focusing on the positioning of the tongue rather than the muscular tensions in the jaw and lips. Of course, the vowels should sound as they usually do. It is just the way they are produced that differs.

The tongue is a large muscle and it is NOT supposed to be completely relaxed when forming vowels as this would sound silly. @) 62a

Tnnslnns In the back ol the tongue

Because the tongue works hard during singing, many teachers focus too much on possible tensions in the back of the tongue. In my experience half of all problems blamed on the back of the tongue are actually caused by tensions in the jaw and lips.

However some singers do push the very back of the tongue down into the throat - this might sound a little like Kermit from The Muppet Show. The tongue stops the larynx from rising and this makes it difficult to reach high notes. You can detect whether you have tensions in the back of the tongue by stretching it out of the mouth and holding it with your fingers - you can hold onto it with a handkerchief. Sing high and low notes and notice whether the tongue pulls in. Do not worry if it sounds a little strange.

Whilst holding the tongue, practise singing scales and songs, regardless of the mode, without allowing the tongue to be pulled in. Use more support when the tongue tries to pull in. Do not hold on too tightly as it may hurt but practise resisting the urge to pull in. Keep this control when you let go of the tongue and sing normally.

You can also avoid tensions in the back of the tongue by means of images/sensations:

- Imagine you have cotton swabs (as used by dentists) under the back of tongue
- Imagine that the sides of the tongue rise when you sing

Find the position of the tongue

To locate the position of the tongue when forming vowels it may be helpful to do the opposite of what you do when you speak.

With EE (as in see), I (as in sit), and EH (as in stay) you usually pull the corners of the mouth to the sides. Instead, try to form these vowels while relaxing the corners of the mouth. Notice how the tongue places itself in order to form the vowel - namely by positioning itself on the molars in the upper part of the mouth.

With OH (as in so), O (as in woman) and U (as in you) you usually tighten and pucker the lips. Now try to 'smile' as you say OH, 0 and U and feel how the tip of the tongue moves into the lower part of the mouth to form the vowels.

Exceptions

In the lower parts of the voice you can tighten the lips slightly as it will not compromise the move¬ment of the vocal cords because in this part of the voice the cords do not need room to strech. Just remember to avoid tightening the lips on the high notes.

When singing in the high part of the voice you dp not need to keep the tongue rigidly in piace'W the vowels. The high notes will be easier to achieve if you open your mouth more widely and do not do anything specific with the tongue.

Difference between vowels

Some vowels have a greater tendency to cause constrictions than others. The mode you choose is very important as each mode has its own set of rules for vowels (see Vocal Modes, page 74).

Even in the mode Neutral difficult vowels differ from singer to singer. Learn how to avoid muscu¬lar tensions in the jaw and lips and to train the positioning of the tongue until it feels natural. Remember to adjust the vowels so they sound exactly as you want them. There is no reason to accept slurred vowels.

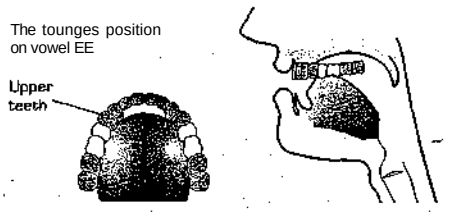
The correct positions of the tongue on vowels is easily practised in Neutral. These positions only *chsnge* a little between the modes so once you have found the correct position for a certain vowel in Neutral you only need a few adjustments when you change mode. However be aware that certain modes in certain pitches exclude the use of cer¬tain vowels.

Vowels EE, I, EH

These vowels are grouped together. Try to form these vowels while relaxing the corners of your mouth. Notice that you place the sides of the tongue on the molars in the upper part of the mouth while relaxing the jaw and opening the mouth.

EE (as In 'see') is produced by placing the sides of the tongue close to the front molars in the upper part of the mouth. Pull the tip of your tongue 'into itself and adjust the tongue so that the vowel sounds exactly as you want. If you think it sounds too woolly it is because you have pulled the tongue too far back on the molars. Try instead to make the sides of the tongue touch the molars closer to the front teeth and relax your jaw and lips.

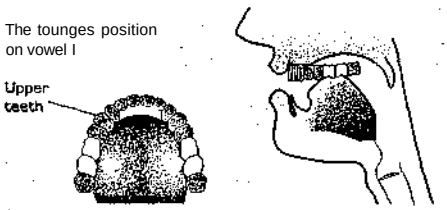
The tounges position on vowel EE



seen from above seen in profile

The vowel I (as in 'sit') is produced further back on the molars in the upper part of the mouth.

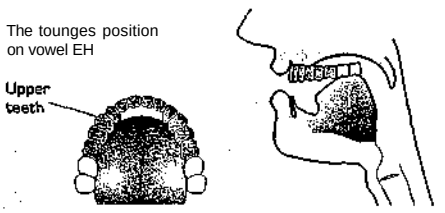
The tounges position on vowel I



seen from above seen in profile

The vowel EH (as in 'stay') and OE (as in 'herb') is produced even further back on the molars in the upper part of the mouth.

The tounges position on vowel EH



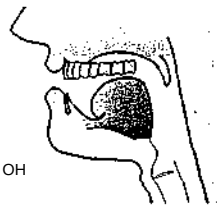
seen from above seen in profile

Vowels OH, 0 and U

The next group of vowels is OH (as in so), O (as in woman) and U (as in you). Make sure the lips are not tightened and puckered. Try to smile as you say OH, O and U and feel where the tip of the tongue places itself. The tip dives into the lower part of the mouth and slowly moves forward vowel by vowel.

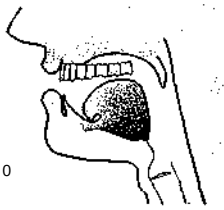
With the vowel OH (as in 'so') and OR (as in 'order') the tip of the tongue is positioned all the way back in the lower part of the mouth, touching the frenulum (the small structure that goes from the underside of the tongue to the floor of the mouth - look under the tongue).

The vowels OH, 0 and U is not shown from above as the tongue hardly touches the upper teeth.



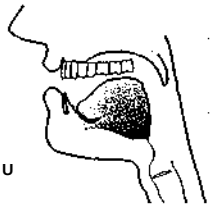
The tounges position on vowel OH in profile.

With the vowel 0 (as in 'woman') the tip of **the** tongue is positioned further forward in the lower part of the mouth.



The tounges position on **vowel** 0 in profile.

With the vowel U (as in 'you') the tip of the tongue is below the front **teeth** in the lower part of **the** mouth.

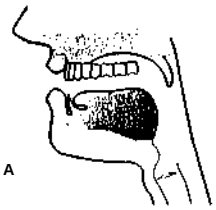


The tounges **position on vowel U** in profile.

Vowels A and AH

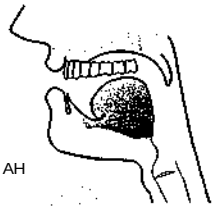
With the vowel A (as in 'and') you place the tongue flatter in the mouth.

The vowels A and AH is not shown from ahovo as the ton[]uu hurrlly r.ounhns the uppui" touth



The tounges position on vowel A seen in profile

For the vowel AH (as in 'far') you place the tip of the tongue by the frenum - as you did with OH (as in so).

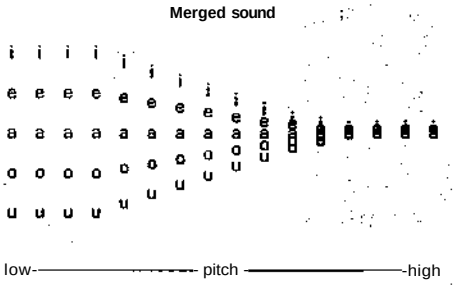


The tounges position on vowel AH in profile

Change of vowels up through the voice

The vowels change sound as you go up the voice. In the low part sung vowels sound more like spo¬ken ones. The higher you go the more they start sounding like each other. In the high part of the voice it is often difficult to distinguish between them. You should not prevent the vowels from merging into one another in the high part of the voice as this may trigger constrictions. If you try to hold on to how a vowel sounds in the lower part of the voice it will be difficult to reach higher notes. *fS* 62b

The sound of the vowels in the high part of the voice is referred to as 'merged sound'. The more classical the singing, the more merged the sound becomes. Merged sound is one of the reasons why words often become harder to understand the higher the song.



Many classical teachers deliberately direct all vowels towards this merged sound. For instance, when EH (as in stay) is sung on a high note a classical singing teacher will often say, "Think EE (as in see)".

Even though vowels are merged it still should be possible to understand the words. Train with someone else until you have become accustomed to the sound of vowel changes (merged sound) as you go up through the various parts of the voice.

Consonants

Unlike vowels, where the idea is to avoid tighten¬ing the lips and jaw, consonants are produced with the help of certain muscular tensions, for

example in the lips. These tensions do not hinder the voice because in singing you do not sound the consonants for long. Consonants make only short sounds. If a singer has problems with making words clear it is normally due to indistinct conso¬nants. Some singers feel the consonants need more support than the vowels - as if consonants 'pull' the support. Be sure to apply this extra amount of support if needed.

Avoid tightening on vowels

A singer may tighten the lips on consonants but it is essential not to remain tightened on the follow¬ing vowel. You must relax the jaw and lips imme¬diately after a consonant - otherwise the singing sounds jammed in. With higher notes the vowels need a wider opening of the mouth. In other words the 'chewing' motions of the mouth will increase as you sing in the higher parts of the voice.

Many rhythmic singers have problems with jammed in vowels because they forget to release the 'tension' of the consonant for the following vowel. (Sji 62c

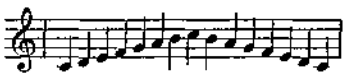
Avoid 'relaxing' on consonants

On the other hand if a singer relaxes TOO much on consonants the text becomes slurred and blurs into one vowel sound. This is often a problem for classical singers who avoid 'tightening' on the consonant for fear of destroying the large and beautiful sound of the vowel. Again remember to use the necessary 'chewing' motions of the mouth between consonants and vowels, <® 62d

Developing correct vowels and consonants

Sing an even and legato scale from the middle part of your voice up through an octave and down again. Sing on EE (as in see), or whatever vowel you think is easiest, and focus on the position of the tongue. Familiarise yourself with the support values needed for the chosen vowel. Remember to pull the lower jaw in compared to the upper jaw. Make sure that all notes have the same volume and that the throat does not constrict. <® 2a

An octave scale



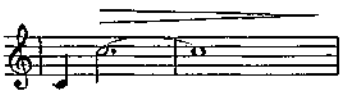
Practise the same thing with the vowels I (as in sit) and EH (as in stay) and remember to place the sides of the tongue against the molars in the upper part of the mouth and avoid tightening the jaw and lips, ga 2b

Practise the vowels OH (as in so), U (as in you), A (as in and) and A (as in far). Avoid tightening or puckering your lips and notice the position of the tongue. ^ 2c

Sustain a long note and change between the vow¬els EE-I-EH-A-OH-O-U by changing only the posi¬tion of the tongue. The jaws and lips should not move from vowel to vowel. Make sure that all vowels are equally sonorous and feel how the support energy needs to increase during the note because of the time factor. Finish the note beauti¬fully, keeping an open throat.
(®i 2d

Practise octave leaps. Allow the sound of the vow¬els to change a little on the higher notes (merged sound) but make sure the highest note is just as powerful and sonorous as the lowest one. Change between the vowels, i® 3

An octave leap

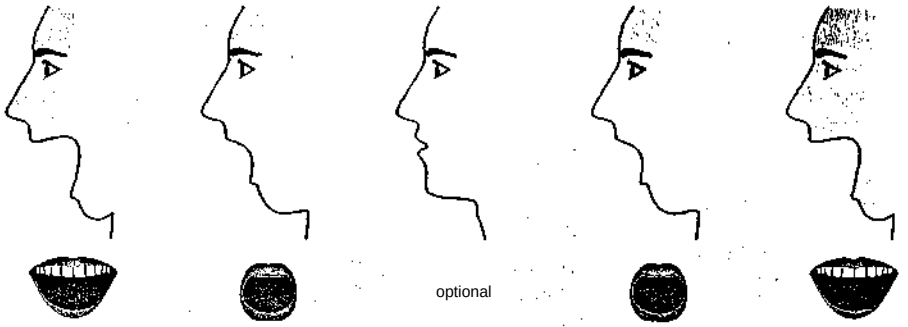


Add consonants and vowels to the scales. The consonants should be 'tightened' but the vowels must be relaxed. Sing TEE TEE - Tl Tl and so on. Then sing FEE FEE - Fl Fl and so on. Sing vari¬ous combinations of consonants and vowels and practise the combinations you think are difficult. ® 4

Train the tongue to make precise words. If you have difficulties with certain combinations of words, practise them separately. Combine various words and make exercises with it until your prob¬lems are solved.

Opening the Mouth

Opening of the mouth in different parts of the voicn



Opening in the lower/middle part of the voice

In the lower/middle part of the voice (Between **d** - a1 for women, and between cO - aO for men) you can afford to tighten some muscles such as those of the lips to produce distinct vowels. This is because the vocal cords do not need much space as they are not stretched.

Opening in the middle/high part of the voice

In the middle/high part of the voice (between a1 - e2 for women, and between aO - e1 for men) you have to drop your jaw to open your mouth. If the mouth is not opened enough the sound becomes jammed in. The aim is to open the mouth gradual¬ ly and concurrently with the pitch.

Opening in the high/very high part of the voice

(n the high/very high part of the voice (above e2 for women, and above e1 for men) it is no longer sufficient to simply drop the lower jaw. You have to open the mouth side¬ ways, as though to widen it into a smile, whilst lowering the jaw.

Opening in the low part of the voice

Between gO - **d** for women, and between g-1 - cO for men drop the jaw **to** open your mouth - as in the middle/high part of the voice.

Opening in the very low part of the voice

Below gO for women, and below g-1 for men drop the jaw and open the mouth sideways as in a smile - as in the high/very high part of the voice.

Following the pitch

On smooth scales mouth opening must be smooth. At leaps of intervals the mouth must leap in similar fashion. Eventually you will learn the exact mouth opening required for each vowel at each pitch. Often, if you do not hinder the natural, instinctive opening of the mouth, it will find the correct position itself. Get to know the movements of the mouth. Once this becomes a habit you no longer have to pay attention to mouth opening.

Completing a Note

Opening too wide

Some singers open their mouths too wide. This can result in constrictions that make the notes breathy and dull. If you think you may be opening your mouth too much on vowels try biting on *one* or two fingers when you sing in the lower part of your voice, and two or three fingers in the higher parts. The mouth is not supposed to open more than this when you sing. Now feel how the support is activated and how the throat opens once the mouth has found the correct opening for the pitch. I® 63

Don't open your mouth too much during singing

How to avoid completing notes badly

Many singers have problems finishing notes: the last part sounds choked, it ends too abruptly, or ragged sounds appear. This is because there is a constriction either due to too little support or due to a tightening of the jaw or lips. ^ 64

Supporting the completion of a note

It is common and understandable that many singers slacken their support just before finishing a note, wanting to 'round it off. If you wish to round off note you actually have to add extra sup¬port, as if thinning the note (see Volume, page 58). Just as support must be progressively inten¬sified during long notes, it must also be sustained to the very end to secure its quality.

To many singers *it* seem natural to constrict the throat when completing a note because they 'run out' of support. You can prevent this by working in the habit of exaggerating an open throat at the end of the note. For instance, imagine you are swallowing something large at the end of the note.

When this becomes familiar you will have secured yourself a good technique for completing notes and will have also become used to saving a fair amount of support for the end of a sequence. This 'saved up' support could also be used to extend the note a bit further or for doing some¬thing artistic, such as finishing the sequence loud¬ly (f) or thinning the tone.

As it is difficult you should also practise complet¬ing a high *note very* loudly (ff) without constricting the throat.

Attacks

You refer to beginning a sound as an **attack.** There are various ways of attacking which con¬ tribute to the distinctlveness of a language.

Glottal attack

In a glottal attack the vocal cords are assembled before you start producing sound. The sound starts abruptly. Although it sounds quite dramatic it is a small, natural and harmless movement for the vocal cords. This attack is normally used in words such as 'every', 'altitude', 'envelope', and 'interesting'.

69

If your voice is healthy there is no reason to be nervous about glottal attacks because the move¬ ment is so small that it does not bother the vocal cords. Glottal attacks are, however, often mistak¬ en for constrictions simply because of the sound. Whereas constrictions are wearing glottal attacks are not!

The glottal attack can be useful for practising a 'clean' attack - one without preliminary noise or air. The glottal attack is also useful in practising Overdrive and Belting (see Overdrive, page 102 and Belting, page 112).

8lmultnnoou8 attack

In a simultaneous attack the vocal cords are assembled as the sound begins. This attack is normally used in words such as 'oil', 'air', 'easy', and 'ear'. On the CD the words 'one', 'two', 'three', and 'four' are pronounced with simultaneous attacks, (fa 70

For many years this type of attack was the only one 'allowed' in singing tuition because it was considered gentle on the vocal cords and pro¬ duced a desirable sound. This is because singing tuition was dominated by a classical ideal of sound where a gentle and controlled attack is required.

The simultaneous attack can be used in practising a controlled beginning of a note without noisy and breathy sounds. This type of attack is perfect for practising pianissimo tones.

Breathy attack

In a breathy attack you allow some air to pass through the vocal cords before they assemble for sound-production. This air is clearly heard as an H-sound prior to the note. This attack is used in words such as 'house', 'hundred', 'horse', and 'hey'. ^ 71

This type of attack is good for learning how to add air to your voice. It is useful if your compression is too strong - which may produce a sharp or shrill sound - or if you want to add air to your note for effect.

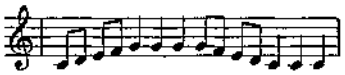
Support and open throat gives healthy attacks

Attacks are a natural part of the language and not harmful in themselves. Constrictions are harmful, therefore it is essential to support and keep an open throat on an attack.

It is equally important to be aware of how much support energy is required for a given note, and to arrive at this level BEFORE the note is sung. If you begin the note before you have sufficient sup¬ port energy it will result in a bad attack and the throat will probably constrict. Therefore you must achieve the required support value BEFORE the note is sung.

Exercise for attack

Practise attacks by singing up through five notes, repeating the highest note three times, then singing down through the five notes and repeating the lowest note three times.



The idea of the ascending scale is to feel the gradual increase in support energy needed. You must be aware of the support value needed for the highest note. Breathe and recreate exactly the same support value. Delay singing until you think you have the correct support value. Sing the note and then hear if your support value was correct. If it is incorrect the attack will not be as intended. Adjust the support value to make a good attack and remember this value for the following note. When you find the exact support value for a given note memorise it. Sing down through the five notes and find the exact support value for the lowest note. Remember this and give exactly this support value for the folowing note. Make sure all the attacks are perfect and continue to repeat the exercise begining half a note higher each time. 5

Practise the glottal attack, the simultaneous attack, and the breathy attack in this way.

Volume

Get to know your volume

It is important that a singer knows her/his volume. Start by finding out how loud and how quiet you are able to sing. Fix the values of these volumes, the quietest being 1, the loudest being 10. Now practise the gradations between 1 and 10. Practise finding an exact volume and be aware of the correction between volume and support ener¬ gy-

Every volume needs a different level of support energy within a different mode. Remember that at the extremes of a mode - that is, at the loudest and quietest volumes within the mode - more sup¬ port is required. Furthermore, a singer has to accept that there are certain volumes in certain modes that are not obtainable.

Once you are aware of the exact volume and support value needed for a certain note in a cer¬ tain mode you can always find this note by apply¬ ing this volume and support subconsciously. Such volume and support awareness will give you great bodily awareness, an invaluable tool in controlling your singing.

Pianissimo and thinning

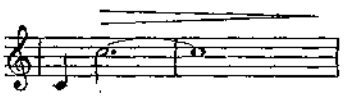
Pianissimo (pp) or 'mezza voce[1] are terms for a very low volume. Pianissimo tones require large amounts of support energy to maintain intensity and avoid breathiness. They also need extra sup¬ port energy to keep the small air current even and the throat open. Pianissimo and thinning usually implies good underlying vocal technique.

Thinning is when a note is made gradually qui¬ eter until it finishes in pianissimo. You can call thinning a refined decrescendo. Thinning requires yet more support energy due to the intervening time factor.

Pianissimo and thinning must be porformad In Neutral. They are difficult to do and aro usunlly the last part of a singer's technique to be perfected. However they are good exercises with which to learn other techniques from. For instance, practis¬ ing thinning is a good way to exercise maintaining an opran throat. (3) 72

Exorr.lsn for pianissimo and thinning

Sing a note in Neutral at a comfortably volume, make sure the note is non-breathy and free. Sing the note one octave higher making sure that the upper note is as sonorous and powerful as the first one. Now thin the note and feel how it gradu¬ ally requires more support the longer you sing. Be sure to keep the throat open all the way through. It is often helpful to gradually open your mouth more and more but be careful that the sound does not become breathy. This may happen either because the mouth is opened too much or as a sign of failing support. Now gradually reduce the volume of the note without losing its quality. If the note suddenly disappears you should apply a little more support for it to return. The point at which the note disappears is called the minimum limit. Become familiar with your own minimum limits for pianissimo and thinning. They vary from singer to singer and, with training, can be made lower. ||| 6

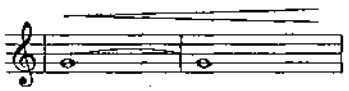


An octave leap

Changing the volume

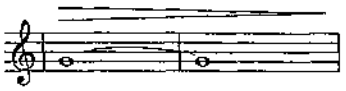
Increasing the volume is called crescendo. Decreasing the volume is called decrescendo. When you want to make a crescendo or a decrescendo it is important to have sufficient sup¬port. This is secured by supporting as though working against a resistance (see Support, page 23). Many singers have a tendency to slacken support on a decrescendo and this causes the throat to constrict, impairing the sound. Remember the three basic principles - keeping an open throat by using support, and avoiding ten¬sions in the jaw and lips - when making a crescendo and a decrescendo.

Make a crescendo on a sustained note. Start in Neutral with a quiet volume (p) and gradually increase the volume. Feel the increased support value required to maintain the sound. Save enough support energy to finish the note beauti¬fully with an open throat.



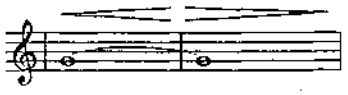
Increase the volume, crescendo

Make a decrescendo on a sustained note. Start the note loudly (f) and gradually decrease the vol¬ume. Feel how the support value has to be increased, even though the volume is being low¬ered. This is partly because singing quietly (p) requires a large amount of support to avoid con¬stricting the throat and partly because of the inter¬vening time factor. Save enough support energy to be able to complete the note in pianissimo.



Decrease the volume, decrescendo

Now make a crescendo and a decrescendo on the same note. Start a note in Neutral with a quiet volume (p) and slowly increase the volume to loud (f) change mode if necessary, then decrease the volume again until the note finishes pianissimo. Also practise scales with crescendo and decrescendo. Remember to use the increased amount of support energy required for both crescendo and decrescendo. ffs 7



Increase and decrease the volume,
crescendo and decrescendo

Metallic vocal modes

A powerful volume may also be obtained by using metallic modes (see Curbing, page 91; Overdrive, page 102; Belting, page 112)

The Three Basic Principles

To ensure healthy voice production always remember the three basic principles:

- Open throat
- Support
- No tightening of the jaw and lips

Open throat

The throat must be kept open to avoid constric¬tions around the vocal cords. An open throat is achieved through correct support and by being aware that the throat is not constricting. Get to know the feeling of a non- constricted throat.

Support

Support means working against the natural urge of the diaphragm to release a breath of air. This is achieved through an interaction of muscles in three areas: the abdomen, the loins, and the back.

Push out the bulge at the solar plexus, pull in. the abdomen around the navel, straighten oik the' curve of the back, and tighten the muscles of the back. Remember that support must be 'as though working against a resistance' for as long as the sound is produced.

No tightening o(Jaw and lips

Tensions of the jaw and lips often cause constric¬tions around the vocal cords. Keep the lower jaw inwards in relation to the upper jaw. Avoid tighten¬ing the lips on high notes.

There are many advantages to following **these** three basic principles including:

- Longer notes
- Even production of sound
- Larger range of voice
- No hoarseness or wear
- Greater volume
- Control of vibrato
- Control of pitch

And remember:

- Singing must always feel comfortable
- The technique must have the intended effect right away, otherwise you are not working cor¬rectly
- If an exercise hurts, is uncomfortable or feels wrong - then it is wrong. You are the only one who knows how it feels, so trust your feelings

Range and Types of Voices

Children's voices

At birth babies' vocal cords are about 3 mm long. A year later they have almost doubled in length to about 5.5 mm. Over the next 12-14 years the cords grow slowly but steadily and reach a length of about 9.5 mm before puberty. When boys and girls are small they have similar voices - high and light - because their vocal cords are equally small and short. This is why the range of children's voic¬es is limited and the pitch somewhat higher than that of adult voices. Adults must take this into account if they want to sing with children. Often adults set a key that is too low for children to fol¬low and if notes are too high or too low children often go up or down an octave in the middle of a song without thinking about it.

It is essential NOT to make demands on children to sing in tune too early in life. Often the result is that the child develops an inhibited attitude to singing. Give them time to adjust to the notes. It is also essential not to interfere with their breathing. Children are not able to co-ordinate or control their breathing voluntarily. For them it is an uncon¬scious process that you will disrupt if you make them focus on it. Avoid correcting their breathing and their support until they have been in puberty for a couple of years. During puberty, young peo¬ple become more conscious of their bodies and so are able to adjust things without ruining the natural processes.

I suggest that when working with children and young people you avoid technical issues. Instead work from a musical point of view - concentrating on songs, expression, phrasing, and so on.

Boys' voices at puberty

During male puberty the larynx and the vocal cords grow in response to sex hormones. The vocal cords grow thicker and longer by an aver¬age of 10 mm. After puberty the cords are about 17-24 mm in length. The changes usually happen so fast that boys cannot keep up with controlling their voices. The voice become darker and the pitch lowers by about an octave. Eventually the cords have grown so long that they are able to produce a falsetto (see Voice Register, page 62).

When their voices break many boys become a laughing stock and can develop a negative atti¬tude towards the voice. They become uncertain of the instrument as it might 'fail' them. They often feel as if the voice is beyond their control and at this point many boys lose interest in the voice as an instrument, thinking it too unreliable.

I would like to encourage everyone who deals with boys in their puberty to be aware of this prob¬lem. It is essential that boys are not humiliated! Although they cannot help their voices breaking, they still feel 'betrayed' when it happens. Do not let them develop a problem that they will have to fight later on in life. The fact that many men have bad experiences with singing from puberty might explain why fewer men than women sing on an amateur basis.

Girls' voices at puberty

Girls' voices also change during puberty but girls' sex hormones do not effect the voice as much as boys' hormones. Through puberty girls' vocal cords grow evenly, on average 4 mm, and the pitch lowers by only about 2-3 notes. The transi¬tion is more gradual without great audible differ¬ences. After puberty the cords of grown women measure about 12,5-17 mm.

Voices n(mon and women

When boys' voices have finished breaking the lar¬ynx and cords are about twice their original size. The vocal cords vibrate more slowly and now men speak and sing an octave lower than women. On most men the larynx is visible (the Adam's apple) which is *rarely* seen in women or in children. The vocal cords of women are smaller, lighter, and can vibrate faster which enables them to reach higher notes. The sound colour of the voice are deter¬mined by the size and form of the vocal tract (see Sound Colour, page 152).

Voices of the elderly

When a singer begins to lose her/his physical shape and strength it is initially detectable in the vibrato. What is known as an 'old person's voice' or an 'old person's vibrato' is usually a sign that the singer is not applying enough support. The voice becomes unstable and frail and the vibrato grows larger.

Some people think the range of a voice changes with age so that higher notes actually disappear. As yet, there is no evidence to suggest that the vocal cords' ability to reach high notes diminishes with age. Usually it is the physical strength to support that becomes insufficient[1]

As the years go by the singer will often feel that more support energy is required for the notes. If this energy is not provided the vibrato increases and will be heard more clearly. If you keep in physical shape, however, there is nothing to pre¬vent you from singing until you grow tired of it.

Types of voices

In classical music and choir singing, types of voic¬es are often classified according to the following denominations:

- Soprano is the light female voice
- Mezzo-soprano or Mezzo is the broader and darker female voice
- Alto is the dark female voice
- Tenor is the light male voice
- Baritone is the darker male voice
- Bass is the darkest male voice

Dillerent use ot the denominations

With professional choir work it is important to *group types of* voices separately as works for choirs are often composed with a strong empha¬sis on the composition of sound colours.

The type of voice is also essential to the classi¬cal soloist as convention often demands a partic¬ular type of voice for a given piece of music.

These denominations are not so important to rhythmic soloists. The types of voices are not classified so categorically in rhythmic music. In rhythmic music the individuality of singers are appreciated to a greater degree. In fact, rhythmic material is often sung by a completely different type of voice from the one it was originally written for in a conscious attempt to renew the song.

Outside the classical world the terms 'soprano', 'alto', 'tenor', and 'bass' are generally used for 'top voice', 'female middle voice', 'male middle voice', and 'low voice' respectively in choir work, regard¬less of which sound colour the voices have.

'VOICG TIGQISTGrS

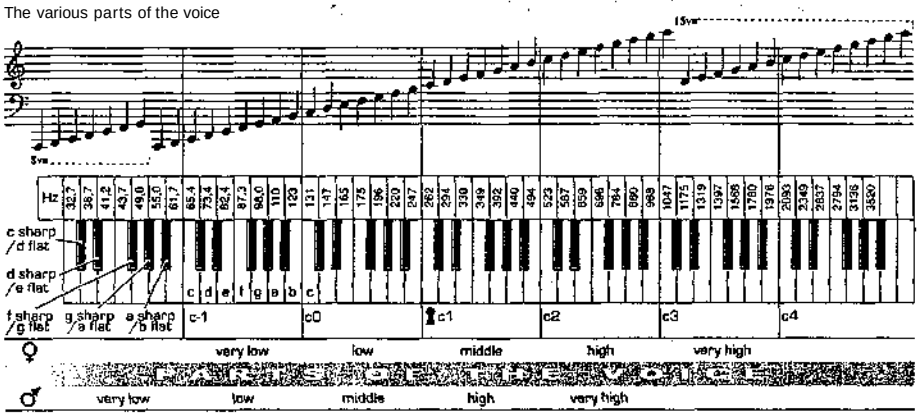
A register is a specific range of notes

The range of the human voice is most commonly divided into five parts or registers. Registers are distinct areas of notes but they do not have a spe¬cific sound. This means you can not hear from the sound colour which register you are singing in, only by the pitch.

As an example, the note aO may be sung in many different ways and with many different sound colours but is still positioned in low part of the voice (the chest voice) for women and in the middle part of the voice (mixed register) for *men.*

For women, the octave starting with cO means the low part of the voice, the octave starting with d means (he middle part of the voice, the octave starting with c2 means the high part of the voice, and the octave starting with c3 (the high c) means the very high part of the voice.

The various parts of the voice



For men, the octave starting with c-1 means the low part of the voice, the octave starting with cO means the middle part of the voice, the octave starting with d means the high part of the voice, and the octave starting with c2 (the high c) means the very high part of the voice.

Chest voice - the low part ol the voice
For women: below d. For men: below cO.

The vocal cords do not need to be stretched much in order to reach the notes in this part of the voice so they are short, thick, relaxed, and vibrate with a full width in the closed phase.

In the chest voice there is resonance in the breastbone (sternum). You can feel the reso¬nance as a buzzing by placing one hand on the breastbone when you sing. 0 65a

Mixed register - the middle part ol the voice
For women: c1 to c2. For *men:* cO to d.

This register is also called voix mix. In this part of the voice the vocal cords stretch to reach higher notes therefore they become thinner and are no longer full width in the closed phase. The reso¬nance gradually leaves the breastbone and is replaced by resonance in the head (see section on head voice). You may feel on the breastbone how the resonance in the chest decreases up through this part of the voice. @ 65b

Head voice/falsetto - the high part ol the voice
For women: c2 to c3. For men: above d.

Far men this part of the voice (register) is called falsetto.

In this part of the voice the vocal cords are even more stretched and only the rims of the vocal cords meet in the closed phase.

In the head voice the resonance in the chest is completely replaced by a resonance in the head. You cannot feel resonance in the head as clearly as in the chest but in certain cases it may feel as if the head 'rings along'. Many singing teachers call it singing 'forward in the face' or singing 'between the eyes'. <3i 65c

Flute pegister/lalsetto - the very high part ol the voice
For women: above c3. For men: above c2.

For men this part of the voice is also called falset¬ to or the high falsetto. For women this part is called the flute, pipe, or flageolet register.

The notes are most probably produced by a muscular tension (the vocal flageolet), that makes the vocal cords become rigid, a little curved, and very thin. In the vocal flageolet the cords do not vibrate along their entire length but within a short¬ er area in the middle of the cords that can be increased or decreased. To sing above the high c you have to use the vocal flageolet. Without the vocal flageolet these notes can not be reached (see Vocal Flageolet, page 64).

Not all women have this part of the voice. If at some point in her adult life a woman has reached notes above c3 you can assume she has this part of the voice. This part of the voice may be trained like all other parts, (g 65d

Sub-register - the very law part of the voice
Below the low part of the voice a special register can be found called the sub (or 'growl') register. In this part of the voice the vocal cords vibrate slow¬ ly and possibly only produces very little sound every other vibration, making the note sound an octave lower. This part of the voice is quite rare but can probably be learnt. It is heard in a small island off the coast of Bahrain where the pearl fishers on long pearling raids sing low sub-regis¬ ter notes, while professional singers are hired to sing a melody above.

The registers used in this book
I have seen so many singers get confused by the term 'register'. Many people connect unintention¬ al vocal breaks with a change in register, believ¬ ing it is the change that causes the break. Therefore they use a disproportionate amount of time concentrating on making smooth changes between registers. This is a watse of time. Registers are man-made divisions in pitch. They are distinct areas of notes and do not have a spe¬ cific sound. Only the pitch can tell you which reg¬ ister you are in NOT the sound colour.

In this book, to avoid the confusion that has been haunting singers for far too long, I will not mention registers anymore but only refer to the actual meaning of the register - namely: the very low, the low, the middle, the high, and the very high notes.

For a more accurate explanation of unintention¬ al vocal breaks see Solving unintentional vocal breaks, page 70.

Vocal Flageolet and Flute register

Very high notes (those above the high c - c3 for women, c2 for men) are called the flute register for women and the high falsetto for men. They are probably created by muscular tensions which pre¬ vent parts of the vocal cords from vibrating. This particular muscular tension is called the vocal fla¬ geolet. Here the vocal cords become rigid, a little curved, and very thin. During the vocal flageolet the cords do not vibrate along their entire length but within a shorter area in the middle of the cords that can be increased or decreased. This is exact¬ ly what guitarists do when they touch a string exactly in its middle after plucking it. The string effectly becomes half its length and vibrates at twice the frequency. The sound becomes an octave higher. This is called a flageolet.

To sing above the high c you have to use the vocal flageolet. Without the vocal flageolet these notes can not be reached, g) 67(1)

But the vocal flageolet is likely to cause problems in lower pitches:

- If you sing with a vocal flageolet below the high c you will only get a very thin sound that cannot be made louder
- If you try to make it louder it will create a break or split in the voice

Singers have to know whep they are singing with a vocal flageolet otherwise they will wonder why the usual principles of singing technique are not working.

Too small a sound or a break

If you sing with a vocal flageolet below the high c it is a very quiet and thin sound. This small sound cannot be intensified or made more powerful unless you force the volume. This will make the vocal cords release the vocal flageolet and a break or spilt appears before the sound gets more powerful. If you get used to singing with this split or break it can be very complicated and time-con¬suming to get rid of. (S| 67(2)

It is also not recommended to practise very quiet volumes such as thinning and pianissimo (pp) with the vocal flageolet because it is difficult to make the thinning gradual and breaks will appear from Neutral to vocal flageolet (see Pianissimo and Thinning, page 58; Neutral, page 80).

However, you can use the vocal flageolet to make a pianissimo even more delicate, provided you already know how to thin sounds and produce pianissimo. You must be very experienced and conscious of your singing technique if you are to practise such quiet volume that it matches this delicately thin sound and use it as an effect with¬out causing more harm than good.

A case story

A popsinger with a great and powerful voice was annoyed that she always sang so loud. She contacted a singing teacher who told her she should practise singing as quiet as possible - with as tiniest and frail sounds as possible. But after practising for a while her voice started to break every time she sang with more volume.

The reason why she sang so loud was because she only sang in the full metallic modes (Overdrîve and Belting) which can not be sung quietly. To sing quietly she should have sung in the Neutral mode. But instead of practising Neutral she had practised the vocal fla¬geolet which had caused the problems.

We started working in Neutral in order to get progres¬sively quieter volumes without the interference of a break. To avoid the fraii and thin sound of the vocal flageolet we trained with greater volumes. To avoid the metallic modes when the volume got louder we at first practised exclusively on the vowels U {as in you) and I (as in sit) and carefully kept her jaw relaxed - these pre¬cautions would ensure she stayed in Neutral. When she was able to sing these vowels in Neutral we proceeded to the other vowels. In the following weeks it was important that she stayed in Neutral and did not sing so quietly that she ended up in the vocal flageolet.

After a month she was able to control the Neutral mode and was even able to sing quietly without break¬ing and ending up in the vocal flageolet. Any time she wanted greater volume she could easily return to the metallic modes. By this she achieved a large dynamic range.

A split in the voice

Some singers get a split in their voice from using the vocal flageolet below the high c. The voice will sound uneven and breathy and may sound as if two separate sounds are produced at the same time - as if the note is divided into two. If you con¬tinue singing with this splitting it can worsen. In the end it might establish to such a degree that you are only able to sing without splitting in the lowest part of your voice. g| 68

If you have developed a split in your voice you should immediately practise until it disappears. A spilt can be very hard to get rid of. The longer the split is allowed to remain the more distinct it will become and the harder it will be to remove.

Exercise lor removing the split in your voice

Sing at such a powerful volume that the vocal cords simply CANNOT perform the vocal flageo¬let. Try to maintain a feeling of singing without the vocal flageolet in the various parts of your voice. If the split appears increase your volume. Feel how you need to use higher support values than you normally would to avoid the split. When you are able to sing at a powerful volume without split-

ting, gradually **decrease lho** volume while main¬taining the feeling of **singing** without the vocal fla¬geolet. Practise until you **are** able to sing quietly without a split.

Obviously it is not **a good** Idea to practise the vocal flageolet below **the high** c. Above the high c, however, the vocal **flageolet** is necessary to reach the notes.

A case story

A young rocksingcr had, by singing very quietly, found a splitting sound in her voice which she thought sound¬ed good. She started practising and using it a lot. After a while she found she could not get rid of it.

It turned out that she was singing in the vocal fla¬geolet below the high c. But when she tried to sing at a louder volume the splitting sound persisted. Because she had used the splitting sound so much it had became more or less permanent.

We started working on support and singing so loudly that she was not able to use the vocal flageolet. In the beginning she had to sing pretty loud to avoid the split. As her support improved and as she got used to the feeling of singing without the flageolet she was able to decrease the volume and still avoid the vocal flageolet. 4

After diree weeks of practising with a clear voice and avoiding the splitting she was again able *to* sing without the split and has since continued her career without problems.

Practise the very high part of the voice by using tho vocal flageolet

Above the high c (in the flute register/high falsot-to) the vocal flageolet is necessary. Hore many singers experience it as a new way of producing notes. You must become familiar with this feeling. The vocal flageolet might feel as if you are speak¬ing while sucking in rather strongly. Try to imagine a high note sung 'inwards' on the vowel U (as in you) - this is just a sensation, do not sing while you inhale. Feel this sensation and now try to sing a note above the high c (c3 for women, c2 for men). The higher the note, the more you must increase this feeling. Feel how much support the individual notes need and practise the required support energy until you can apply that amount. Start practising the high part of the voice with clear, we/l supported notes. Garadually go higher and when you reach the very high part of the voice (c3 for women, c2 for men) just continue. This way you gradually get into the very high part of the voice without breaks or changes. Practise these high notes just like other notes. Sing scales and intervals until you have worked in the exact support values required to prevent constrictions and have achieved free and unhindered notes.

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Pitch

The voice will find the right pitch

The human voice usually works perfectly when you make your first scream. A new born baby rarely becomes hoarse, in spite of the high volume, because the interaction between breathing, support, and voice is correct. As you grow and develop you can acquire bad habits in the form of muscular tensions (called constrictions) that prevent the voice from working perfectly. A singer, therefore, has to intervene in certain unconscious processes but not everything has to be controlled and corrected.

The ability of the vocal cords to stretch to the required length to reach a certain pitch is actually beyond our conscious control. It is acquired over the years by refining pitch with our hearing, assisted by-muscular memory (see Muscular memory, page 10), and by practising 'hitting the mark'. If a singer had no idea how to sing a note and the voice was unable to act on its own singing teachers would be entirely powerless. In short, the task of a singing teacher is to hear how a singer, through muscular tensions, prevents a natural pitch-adjustment from taking place and to help the singer remove the tensions so the voice can find the note without hindrance.

Being able to find the right pitch within a note is known as correct intonation. Every note has a defined pitch (number of pulsation per second). Around that pitch the note can be slightly higher or lower without becoming the next note. You judge a note as being 'out of tune' when it is either higher or lower than the defined pitch - but still within the same note.

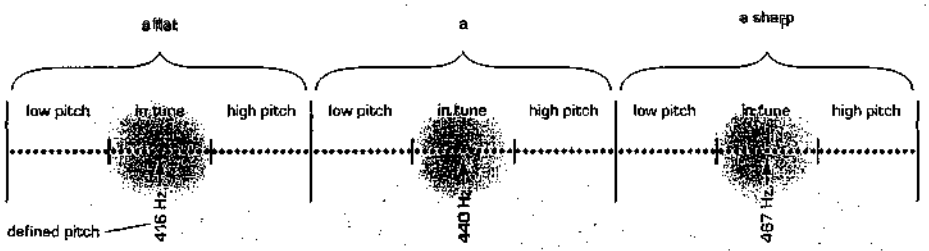
Bad pitching is caused by muscular tension

I believe the voice finds the most appropriate way of working all by itself. If you do not interfere, it will work perfectly. Therefore I do not believe poor pitching is due to bad hearing. It is caused by muscular tensions preventing the vocal cords from stretching, making the notes unreachable. At this point it is useless for the singer to focus on being out of tune as it usually just makes the problem worse. The singer gets the feeling that something extra has to be added to the voice to stay in tune instead of realising that something has to be removed - the constrictions. Any increase in activity usually just worsens the constrictions.

Everybody can miss a note

Everybody, including even the most skilled professional singers, misses a note from time to time. The voice requires very fine 'tuning' and everybody 'tunes a bit wrong' sometimes. Perhaps there was insufficient support, or the energy level was a bit lower than usual, or the voice required a bit MORE energy than usual, or you did not inhale properly before the note, or the monitoring condi-

Around the defined pitch the note can be slightly higher or lower without becoming 'out of tune'



tions were not very good. There may be a number of reasons why a note is not exactly what you want it to be. As a singer you must be aware of all these circumstances and adjust to them when something is wrong. But well-intentioned comments from others that simply focus on whether the note is in tune can do more harm than good.

'Unworthy' of being out of tune

It often puts pressure on a singer to be told that s/he is singing out of tune. A lot of guilt is felt from singing out of tune. It implies it is the singer's fault, that s/he has 'bad hearing' or 'is unmusical!' The singer is immediately reduced to feeling second rate with the threat that this will never change unless the problem is solved instantly. What else are you likely to do on receiving such a verdict but start creating further constrictions!? Focusing relentlessly on being in tune can make studio sessions very stressful. It requires considerable self-confidence to maintain your self-esteem when sound engineers and producers are silently pronouncing death sentences on your career every five minutes.

I have seen excellent professional singers badly shaken by somebody mentioning they were out of tune. The problem worsens as you apparently cannot correct the mistake immediately. It often feels, in fact, as if being in tune is beyond your control.

Getting in tune by relaxing muscular tensions

I prefer to tackle this problem in another way. I do not immediately point out that a note is out of tune as this often embarrasses a singer. I record the out-of-tune note and use it to look for constrictions. I allow the singer to continue singing out of tune until I have located the constriction and then I make the singer focus on that one. This way we can move directly on to solving the problem without spoiling the work with disturbing and discouraging emotions.

In my experience when tensions are released the note becomes in tune. This is a natural extension of healthy singing techniques. In other words, being in tune is a benefit of correct and healthy singing technique.

Going in and out of tune

Singing higher or lower than the defined pitch can be an artistic choice. If a listener judges you to be 'out of tune' it may be because, without realising it, s/he is expressing a taste different to yours.

You can prepare for this by being familiar with the difference between singing higher or lower than the defined pitch and by being able to control both. It is better to practise this at home in 'safe' surroundings than on stage! From then on, if a listener judges a note to be 'out of tune', you can ask her/him to say whether s/he wants it higher or lower than the defined pitch. Then it is up to you to decide whether to change.

Sing a note and practise singing it higher than the defined pitch. Feel that if you are TOO high you go on to the next note. Practise singing it higher than the defined pitch but without changing to a new note.

Then practise singing lower than the defined pitch in the same way.

Practise getting precise control over your pitch so you are able to change higher or lower pitches into the defined pitch. ^ 60

Tone-deafness

'Tone-dealness' does not exist

1 have met many so-called 'tone-deaf people who have had difficulty singing in tune. All these people have been able to work on their problem. By cor¬recting their singing techniques and releasing their constrictions they have learnt to distinguish between the notes and become able to sing in tune.

Tone-deafness' is caused by constrictions

"Tone-deaf singers often have severe constrictions around their vocal cords. Usually they have had these constrictions for such a long time that they no longer feel like constrictions. You often find psycho¬logical reasons for these constrictions. Often its because the singer has been thoroughly deprived of her/his self-confidence regarding the voice at an early age. You can lose your self-confidence for many reasons: being singled out in the school choir as the one spoiling the sound, being called a foghorn, being excused from singing in music lessons because "it does not sound good", being picked on when your voice was breaking, being rejected by a singing teacher, being the laughing stock of your family when singing Christmas and birthday songs and so on. When so-called 'tone-deaf people experience enough discouragement they lose confidence in the correspondence between their voice and their hearing. The singer no longer trusts her/his voice or hearing. Hearing becomes 'disconnected' and such singers cease to correct what they sing by means of their hearing. From this point on things can rapidly go downhill. To avoid hurtful defeats and to prevent further humilia¬tion the singer becomes the first to put her/himself down and declare that s/he cannot sing.

It is hard work

It is truly admirable when a so-called 'tone-deaf per¬son has the courage to work on her/his problem, because it is often a very difficult and time-consum¬ing process. It can be very hard for the singer to confront all the painful defeats that s/he has experi¬enced in being labelled 'tone-deaf. Such people, who wish to tackle their problem in spite of every¬thing, have my deepest respect.

Working with 'tone-deaf people

I start by working on breathing as it is difficult for any¬body to control singing without it being solid. This does not involve notes so it is possible to work without emotions getting in the way. Then we practise support and by this many constrictions can be detected.

When you begin to link support and the voice the notes are unimportant, as we can simply concen¬trate on the quality of sound and the experience of singing. It can be quite a relief to sing without hav¬ing to think about pitch. I ask a singer which modes and sound colours s/he wants to perfect and we work until s/he is satisfied with her/his choices. At this point the singer is deeply involved in the work which has been neglected for many years. I accom¬pany the exercises on the piano, but still the actual notes are unimportant, the singer sings as good as s/he can. The more free the voice becomes whilst working with sound colours, the more the pitch starts to correspond to what I am playing. Little by little, the singer sings the same notes as I am play¬ing without thinking about it.

This is where 'hearing' is brought in. I ask the singer to listen to what s/he sings and to hear that it is, in fact, in tune. Now the singer practises singing wrong notes consciously and adjusting them with her/his 'ear' until they are in tune. Sometimes the techniques fall apart and the singer sings out of tune again but it does not matter. This is often a neces¬sary stage on the way to conscious and correct tech¬niques which should be experienced in the practise room rather than in public. If a singer has previously been able to sing in tune by means of avoiding con¬strictions and using correct techniques s/he can do it again. When the techniques have been perfected the singer sings consciously in tune.

f/••

Solving unintentional Vocal breaks

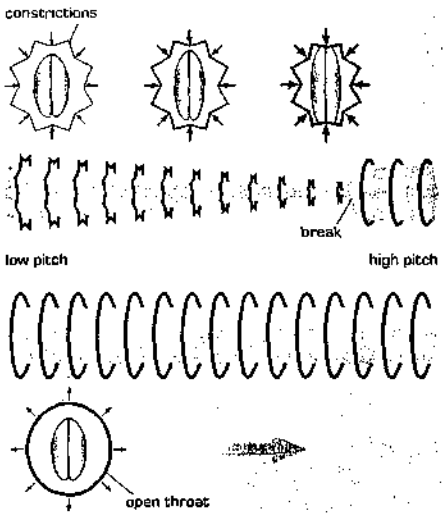
A vocal break is an abrupt change in sound. Vocal breaks can be a means of expression and are used in many styles of singing (see Vocal Break, page 182). This chapter will cover unintentional vocal breaks which cause an unevenness in singing.

A vocal break can appear for a number of rea¬sons:

- If you use flageolet below the high c and try to increase the volume (see Vocal Flageolet, page 64)
- If constrictions interfere with the vocal cords
- If there is insufficient support
- If there is a change between vocal modes

Constrictions

In the lower part of the voice (the chest voice) the vocal cords are short and full width in the closed phase. To be able to sing higher notes they have to stretch and this makes them narrow. The vocal cords are like rubber bands and cannot stretch without narrowing.



Some singers, however, hold on to the feeling of the full width of the vocal cords because they think they can 'pull the chest voice up' into higher parts of the voice. They produce a muscular ten¬sion to maintain the width of the vocal cords whilst trying to sing the higher notes. This is only possi¬ble to a very limited extent and such singers are forced to tighten more and more with each rising note. This becomes a battle between the muscles attempting to stretch out the vocal cords and the muscles attempting to maintain their width. At some point the stretching of the vocal cords wins and this is where the voice changes sound abruptly. This is called a break. Many believe this the result of a change of register which, as you can see, is not the case. (*Sj* 66a

Misleading denominations

Vocal breaks.have nothing to do with changes of register. This is illustrated by the fact that the voice of a given singer may break on many differ¬ent notes. It is not logical to name these breaks 'changes of register' as registers are parts of the voice, areas of notes. They have a fixed position and do not *move* from note to note. These parts of the voice (registers) have no characteristic sound colour or volume so it is misleading and often harmful to talk about 'pulling up the chest voice' when you want a high volume and resonant sound on high notes.

To talk about 'a chest voice sound' and 'a head voice sound' is completely wrong and misleading. At best these expressions are illogical, at worst

they cause considerable vocal problems by luring a singer into believing that s/he can maintain the feeling of wide vocal cords on high notes. This often introduces constrictions which prevent you from reaching high notes and are liable to dam¬age your vocal cords, it can be quite a task to get rid of such constrictions.

If a singer lets the vocal cords work naturally instead of interfering with muscular tensions the notes will gradually glide from one to the other all the way up the voice without any changes.

So you must remember the three basic princi¬ples, respect the modes, and sing up and down through the scales without any changes or vocal breaks.

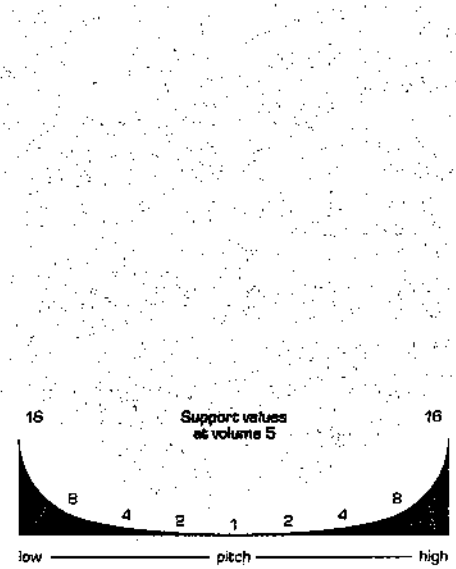
Failing to support

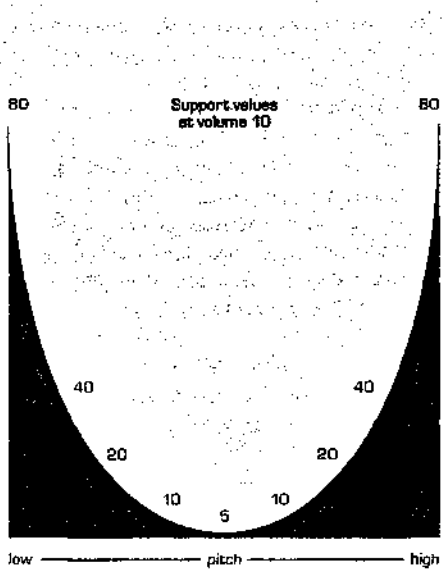
Vocal breaks in, or changes of, the voice may also be due to insufficient support. Again, a vocal break might occur on different notes, depending on where the singer loses her/his support. If you sing so powerfully that there is not enough sup¬port energy to accomplish the volume you talk about 'failing to support'. ^ 66b

Volume 1 and volume 5

Higher notes require higher support energy. A higher volume also requires a higher support value. The support values for pitch and volume must be multiplied together. If a singer has to sing an ascending scale at volume 5 the support val¬ues for each individual note will be, for example: 1, 2, 4, 8, 16, and so on. If the singer chooses vol¬ume 10, the support value will be 5 times as high: 5, 10, 20, 40, 80, and so on.

In the lower part of the voice, support values are not so high, and multiplying these low values by 5 seldom presents a problem. When you move higher up, however, the support values quickly





become enormously high when multiplied by 5 and it becomes difficult to apply enough support.

Somewhere on the scale a singer might suddenly run out of support energy and the volume abruptly breaks, for example from volume 5 to volume 2. If all the support energy is used up the note might break completely.

These breaks are also often mistaken for cruel changes of register that are hard to guard against. This is not the case.

A failure to support is heard more clearly in the higher part of the voice. For example, in a man's falsetto the volume has a great influence on the quality of sound. If there is insufficient support for a given note the quality of the note changes to a thin, squeaking sound. So you have to be careful to maintain the volume up through the falsetto if you want a consistent sound. To maintain volume in falsetto requires - as in other parts of the voice - more and more physical strength the higher the notes.

If it is impossible to avoid a break or a change in sound perhaps you do not have the necessary physical strength to reach the pitch at the required volume. If you do not have the physical strength to complete a song in volume 5, lower the volume until you can manage it.

Do not fail to support

Learn how to conserve your strength. Start at volume 1 and when you are able to complete the song with good quality increase the volume to 2, making the exercise harder and physically more demanding. Then continue increasing the volume to 3, 4, and so on. You must make sure your support energy is sufficient to give you an even volume and sound. Train the support muscles so you build up the necessary stamina. If there were two identical singers the physically stronger one would be able to sing higher and more powerfully than the weaker one.

Changing vocal mode

Unwanted breaks or changes in the voice **may** result from an unconscious change between the vocal modes: Neutral, Curbing, Overdrive, and Belting.

If a singer does not deliberately choose her/his mode the voice often chooses it for her/him, the result usually being that the singing has a different sound to the one wanted. The singer starts constricting to avoid this, often damaging the voice.

For example, in the lower part of the voice - the chest voice - most singers have no difficulties in getting good power on notes and many have cultivated a powerful, dark 'shouting' character. This is Overdrive and it is often the preferred mode in the low part of the voice. When singing in the higher parts of the voice the support requires more physical strength - especially if the singer wishes to continue in Overdrive. This may become difficult. If the voice chooses the Neutral mode instead of Overdrive in the higher parts of the voice, the notes only require half the support energy. This quickly becomes apparent to the body and thus Neutral becomes the preferred mode in the high part of the voice. The change between the two modes is heard as a change of sound colour or as a break that some mistakenly refer to as a change of register. In fact, it has nothing to do with a change of register but is a change of mode.

It would have been more appropriate for the singer to have known when s/he was close to the border of a mode and therefore chosen to change mode voluntarily instead of letting the voice decide and break.

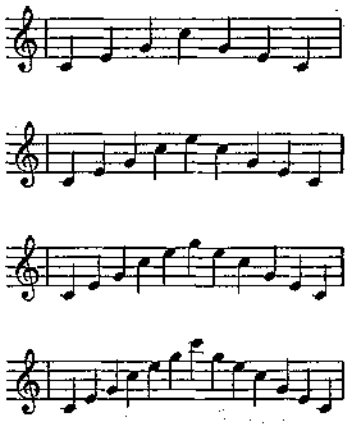
Each vocal mode has special characteristics, advantages, and limitations with regard to volume, vowels, pitch, and sound colour. It is important to choose the most appropriate vocal mode for what you wish to sing (see Vocal Modes, page 74-124). @ 66c.

Exercise fop avoiding unwanted vocal breaks

If the voice breaks start by practising the **not*!** around the break separately and slowly to memo¬ rise the necessary support values. When you **are** able to sing each note without a break put the notos together into small melodic sequences. Use the momorised support values and gradually make tho exercises more difficult until you have solved tho problem of the break. ($) 58a

Avoid breaks on descending melody lines. The voice will often want to 'jump' down into a heavier character (the Overdrive mode) if you do not hold it back by supporting more. Be familiar with the areas of your voice that are prone to breaks and give more support in these places to stay in the chosen mode. (S\ 58b

Train the flexibility of your voice by practising healthy routines all the way through your vocal range. Practise at all volumes and with all pitches, sound colours, tempi, and vowels until you are able to avoid breaks. (3) 15



Triads

Resumé

If you **wish** to avoid vocal breaks:

- **you** must avoid constrictions in the throat.
- you must nvoid failure to support.
- you mufIt bo nware of exactly which mode you are singing In.
- you must avoid using flageolet below the high c while increasing the volume.

And remember; if you fail in the same exercise three times in a row it is too difficult and you will only introduce constrictions by continuing. Make the exercise easier in order to succeed and work these healthy routines into your muscular memory.

Introducing the Vocal Modes

The metallic/tilted sound

Some sounds have a more metallic (sometimes called 'tilted') character. All singers, both classical and rhythmic, sing a metallic character, although the sound from a rhythmic singer is different to that from a classical singer. An OBVIOUS metal¬ lic/tilted sound could be described as a harder, rougher, and more direct, or as if the note 'has an edge'. Obvious metallic sounds are often used in rhythmic music but in classical music the sound is harder to recognise because it is 'covered' by the classical sound. The character of a metallic note may vary but the volume is always relatively pow¬ erful. The distinction of the metallic sound varies which is why metallic notes are divided into non-metallic (non-tilted), half metallic (half tilted), and full metallic (full tilted).

There are many theories on how the metallic/tilted character appears. The name 'tilt' comes from the theory that 'tilting' of parts of the larynx produces the metallic sound. However, to this day there is still no definitive scientific answer of what tilts, how it tilts, and when it tilts. I therefore prefer to use the name 'metallic' which refers to the sound rather than refering to a physical action that we are not sure of.

Vocal modes

I have classified these non-metallic, half metallic, and full metallic sounds into 'gears' or 'vocal modes'. All sounds can be divided into these four modes or techniques:

Their relationship to metal or tilt can be described as:

Non-metallic	=	Non-tilted	=	Neutral
Half metallic	=	Half tilted	=	Curbing
Full metallic	=	Full tilted	=	Overdrive
Full metallic	=	Full tilted	=	Belting

While non-metallic is equivalent to Neutral and half metallic to Curbing, ful! metallic is divided fur¬ ther into Overdrive and Belting. From now on I shall often describe sounds in these terms rather than in levels of metal or tilt.

Tuition in metallic modes

Most singers in the West have no problems find¬ ing soft, non-metallic sounds as they are used in the majority of Western music and music educa¬ tion. These non-metallic sounds may be acquired at school and through easily accessible tuition.

Many singers are afraid of metallic sounds as they have been incorrectly connected with dam¬ aging the voice. Metallic sounds are no more dangerous or unhealthy than non-metallic sounds. Today, tuition in these metallic modes is available for everybody (for example, via this

book) and not only for **professional singers.** The tuition deals with the **advantages and the** limita¬tions of the modes and **the general precautions** that should be taken.

Each mode has characteristics, advantages, and limitations that relate to volume, the use of vowels, pitch, and sound colours. Each of these modes must be chosen and used with care because some modes will make a specific sound easier while another will make it more difficult.

Everybody uses metallic sounds

There is no reason to fear metallic sounds - they are as natural to the voice as non-metallic sounds. Metallic modes are, in fact, more com¬monly used than most people think. For example, the screams of a new-born baby are in a metallic mode. To the baby, being heard is a matter of sur¬vival so the metallic mode is essential for commu¬nicating the desire to be heard.

Metallic modes are used when the volume is above normal speaking level. For example;

- A class of school children during a break (Overdrive or Belting)
- Angry shouts (Overdrive)
- Somebody grumbling from a stomach ache (Curbing)
- Shrill screams (Belting)
- People shouting (Overdrive)
- Market sellers attracting customers (Overdrive)
- Somebody scolding (Overdrive or Belting)
- The cry of a child, especially if hysterical (Curbing or Belting)

Obvious metallic sounds form part of almost all folk music such as:

- Bulgarian female choir singing (mostly Overdrive and Belting)
- Flamenco singing (mostly Overdrive)
- A lot of traditional tribal singing from the African continent (mostly Overdrive)
- A lot of traditional Arabic singing (mostly Overdrive and Belting)
- A lot of traditional and ceremonial singing from China (mostly Curbing and Belting)

Evan In Western clnsslcal music, which trios to **avoid obvious** metallic sounds, the metallic **modes are used.** Howevor they aro harder to recognise **as** they are covered In the classical sound. Such as:

- The powerful high notes of the dramatic tenor (Belting)
- Female classical/opera singers' low notes sung powerfully (Overdrive, Curbing)
- The powerful notes of male classical/opera singers (Overdrive)

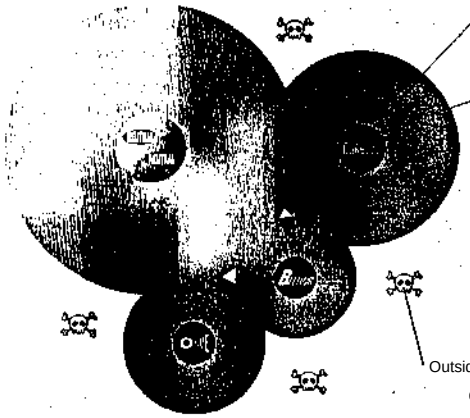
Changing mode

It is normal to change between modes and there¬fore degrees of metal while singing and speaking. These changes can occur rapidly, either audibly or inaudibly, within short musical phrases or even within a single word. Conscious control of mode changes enables singers to obtain just about all the facets and sounds s/he may ever require. However, unconscious changes can cause vocal problems and technical limitations.

Trouble shooting

In my experience 95% of all technical problems arise from incorrect use of the modes. Such prob¬lems can be avoided by knowing, understanding, and complying with the advantages and limita¬tions of the modes. Not only does this avoid most mistakes but it also optimises the use of the modes - where they work healthiest and give the best sound (for an example see Solving Vocal Breaks, page 70).

Any change of mode should be the artist's deci¬sion rather than through a lack of technique or an unconscious habit. Having an overview of the modes should enable you to rapidly choose which modes works best for a given phrase. Having detailed knowledge of the modes and their advan¬tages and limitations should enable you to vary your expression and also solve your technical vocal problems.



The more exactly you position the mode, thB more you will guard against misusing the voice.

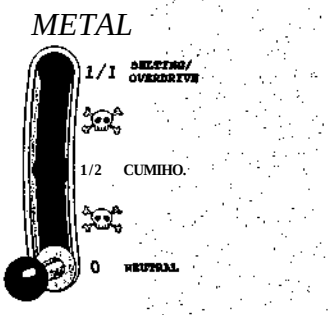
Exact mode positioning is healthiest

Each mode has a basic position where it is most healthy for the voice and works best - this is what I refer to as the 'exact position'. Around each 'exact position' there is a 'marginal area' where it is possible to make minor changes to the mouth cavity to alter the sound colour, vowels, and vol¬umes WITHIN the mode (see diagram). The size of the 'marginal area' and the possibilities within it vary between modes. In Neutral, for example, t(ie 'marginal area' is large with many possibilities for variation. In Belting, however, the area is small with very few possibilities. Outside the 'marginal area' there is danger of damaging the voice. The more exactly you position the mode, the more you will guard against misusing the voice. The further you move into the 'marginal areas' the greater the risk. Also the higher notes you sing the smaller the marginal areas become and the less possibilities there are. In order to be able to change modes smoothly in the high part of the voice you should take advantage of the fact that some marginal areas overlap.

Understanding the modes through images and sensations

You can think of the modes as four gears of a car. Only when the car is correctly in gear will it move. In the same way only when you are in the correct position will you be able to sing without hindering the voice. Each gear (mode) has a certain degree of metal - non-metallic (Neutral), half metallic (Curbing) or full metallic (Overdrive and Belting).

As you progress through the gears the sound becomes more metallic and you will be able to achieve louder volumes. The lower the gears the quieter the volumes possible. For example you can only add air to the voice in the lowest gear (Neutral). In any other gear (Curbing, Overdrive or Belting) it becomes dangerous. Even attempting it may result in damage.



Respect the limitations of tho moilni

To change freely between the modus you **mu»l** Ixi familiar with the borderlands of each 'mnrfjliuil area', as well as where you are able to OllHlUJO Iho vowels, sound colours, and volumes.

Furthermore you have to be able to control **the** gradual transition from one mode to another. Such a transition may involve changing via an interme¬ diate mode.

A singer must be able to replace a mode before reaching its limits. Sometimes it is necessary to change mode simply to be able to continue singing the same sound as you increase pitch.

Recognise the modes

A singer who has correctly learnt how to change modes will make it sound as though there are no rules for, or limitations of, the modes. But there are! The singer gives that impression simply because s/he is constantly conscious of each mode's rules and limitations, enabling her/him to travel freely between them without causing dam¬ age.

Singers and vocal teachers must be able to recognise the modes so that they know which rules and limits to respect. Unfortunately, some of the things you should do to protect the voice in one mode may be seriously detrimental in anoth¬ er. The following case story demonstrates how using the wrong rules in a particular mode can be detrimental to the voice.

A case story

A self-taught and very talented **country (Inner** with many years of experience, including a vu«t iiiiniltnr of i oucerts, had not been singing for several ynu'K, Tin- uiory wits that one day she had decided to take lmi<in:i In Niii|('properly' and have some minor technical HUH UIIIICH ronieclcd. She consulted a classical singing irarhrr who taught her that to take care of the voice nhenlioulil mil nun (lie muscles in her throat but sing in a more relaxed niiinncr. Slowly her technique fell apart and, after u while, she did not believe she could sing anymore. She consulted olhcr teachers and received other suggestions on how to relax her voice but her singing got worse and she eventually gave up.

I must admit I got worried when I heard her singing. It was difficult to recognise that she had ever sung professionally. We.started working on establishing correct support - partly because support is essential but also to stop her focusing on the emotive problem of her singing. Her voice kept splitting which made the singing sound more problematic than it actually was. This splitting told me the voice was trying to produce a metallic sound but in an incorrect manner. This was why the notes failed.

I asked to hear a recording of her singing before her problems and confirmed she had previously sung in the Curbing mode. We worked on re-establishing and perfecting the 'hold' (see Curbing, page 91) that for the last couple of years she had practised getting rid of believing it to be damaging. The singer recognised the 'hold' as the thing she used *to* refer to as a 'pressure on the voice'. When she stopped fearing the 'hold* and worked on refining and adjusting it to what she was singing her voice returned. Instead of relaxing and being too cautious she, in fact, needed to work harder and use plenty of energy and support to maintain the 'hold'. Within a year she was performing again.

Use sufficient support

Each mode has physical energy demands. These requirements vary from singer to singer **but** in general you can say the more difficult a mode seems to be the more support and energy need¬ ed. Some pitches impede certain modes. What this means is that within a particular pitch certain modes will be easy to maintain while others are more difficult. In effect, the pitch tends to 'pull' you towards an easier mode. Therefore to maintain a mode not favored by the pitch requires extra strength and continuous support.

However, it is important to understand that sup¬ port energy is NOT equivalent to volume. As an example it requires a large amount of continuous support to sustain a very quiet (pp) note. Even if you support very strongly to prevent a change of mode the note does not necessarily have to become louder.

Singing requires energy

If you do not apply sufficient *energy* the exact position of the mode cannot be obtained or sus¬ tained and there is great danger of wearing the voice. However, when you obtain the exact posi¬ tion of a mode it is the most efficient way of get¬ ting full benefit of the energy used. It is important to be in good physical shape and be able to pro¬ vide the necessary strength/energy. Physical strength alone, of course, is of no use to a singer without solid technique. And physical strength must not cause muscular stiffness or tensions. Strength must be present but it is equally impor¬ tant to be able to relax the muscles when they have been tensed.

A case story

A delicately-built semi-professional singer wiw very .iliy and hardly dared sing. When she did, i(will witli 11 small, frail sound. It seemed incomprehensible to inr because her *»knH structure mid hir^c mnuth atvity* indicated that ahe tn^hl to ninkr inm.h- more HOMIHI. We started working willi thr Ovcrrlrivr miwln brfJin.ie in this made it is impowuMc to fling in i\ lCNITimiGd or quiet way. Suddenly the most amazing notes rnmc out of her. *As* it turned out she had one of 1 he largest voic¬ es I have ever heard and a marvellous, dark sound colour. She was simply embarrassed by her large voice and had sung quietly so as not to seem intrusive.

We continued for about half an hour practising only Overdrive and then went on to practise Belting until she had become accustomed to a forceful volume. After the loud volume of these two full metallic modes even Curbing seemed moderate to her and non-intru¬ sive to her. Finally we introduced the Neutral mode.

After this she was able to choose between modes and shape songs according to the sound colours and expression she wanted. Whenever a problem arose we practised the modes which made the particular sound colours she wanted. While working on the songs it became evident that aside from an extraordinary voice *she had* outstanding rhythmic sense. Within ' six months she was singing professionally.

Fill out the modes

Some of the modes have a very loud volume, especially when you find the exact position. Many singers are afraid of making too much noise which makes it complicated for them to learn. As well as knowing the modes you must be able to Til! them out' with your personality. It is therefore often nec¬ essary to work on breaking down psychological barriers against certain volumes and sound colours. This is best done by practising in safe sit¬ uations where mistakes are regarded as nothing more than steps to gain control over the modes. It may take some time so be prepared.

A «ane Ktory

An iii:t:nm|iljn!inl prol'rMlimul pup/rock HJn^rr lacked powrr in hn[1] voicr. We worked on Ihc vnriou.H metallic tniiilrft J11c 1 iillliou^h she learned (jtiickly she kept for-grftiuK unit wouM irturn to singing as siir used to - in Nnilinl.

Aft dhr seemed afraid of making too much noise I suggested, thrtt **she** exclusively sang in Welling and Overdrive (both full metallic) for a week. After about a week she had become so accustomed to the powerful volume that she no longer attempted to sing quietly in Overdrive and Belting. The next week she exclusively practised Curbing (half metallic) and after working with ihe full metallic modes it was a relief for her to sing more quietly. So after these two weeks she knew the difference between the modes and their volumes. Now it was no longer difficult for her to distinguish between the modes and make use of them where they work the best and she had no problems with power in her future concerts.

Exercising the modes

Most singers prefer specific modes and exercise them more regularly. It is important to re-examine all the modes regularly even ones you control best to keep them healthy. But to avoid mistakes it is important to consciously keep the modes in the exact position and not mix in elements from other modes. It may also be sensible to learn modes that you do not immediately need, so you can widen your options and get a better overview.

Navigating Ibs modes sections In this book

Tho following soclion on the vocal modes goes through where the modes work best, thereby gaining the most from the energy used and pro¬tecting the voice from damage.

First, I examin each mode with advice on how to find the exact position. Then I look at its function with regard to pitch, vowels, volumes, and sound colours as well as its possibilities within the mar¬ginal areas.

In order to make the sections easier to navigate they have the same general structure:

- Graphical overview
- An overview with general information
- Examples of singers
- Conditions for the mode
- Finding the mode
- Finding the mode through images and sensations
- Finding the mode through sound
- Be careful
- Pitch and the mode
- Vowels in the mode
- Volumes in the mode
- Sound colours in the mode
- The mode in classical singing
- Exercises in the mode
- Warnings
- Unintentional distortions

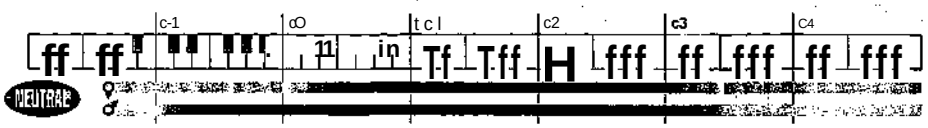
There are slight variations within this structure depending on the demands of the mode.

Alter this I go through how to choose a mode based on different criteria depending on what is important. Choosing a mode is influenced by pitch, vowel, volume, sound colour or a combina¬tion of all of these. You will learn to identify the best mode for what you wish to sing.

Finally I go through how to change between the modes smoothly, healthily, and inaudibly.

Neutral

rnnrln	NEUTRAL METALLIC
closuro of tha vocal cords	NEUTRAL soft NEUTRAL compressed ****** #a&
method	loose jaw — ^
vowels in **the** high part of the voice	all
pitch	all
volume	quiet can be loud in the high part of the voice
character	soft



An overview

Neutral is the non-metallic mode. It is a very extensive mode that contains many different sound colours. The sounds are softer and milder than those of the metallic modes. When begin¬ning, Neutral is found by leaving the jaw loose.

The Neutral mode extends from notes that are soft with air added (breathy notes) to very com¬pressed notes. Whether a note is breathy or com¬pressed depends on how tightly closed the vocal cords are - the tighter the closure the more com¬pressed the sound. The two extremes within Neutral are called 'soft closure Neutral' and 'com¬pressed Neutral'. For clarity, the two extremes of Neutral are sometimes considered separately as there are different demands and possibilities.

All parts of the voice, all vowels, and all sound colours can be used in Neutral by both men and women.

Soft closure Neutral

Neutral is limited by volume. In **general It Is a quiet** mode but there are exceptions. **It Is possible to** obtain greater volumes In compressed (hard clo¬sure) Neutral than in soft closure Neutral. Very loud volumes (ff), however, can only be obtained in compressed Neutral and only in the high part of the voice (from c2 upwards). Other than this the volume is generally quiet.

In the West, Neutral is normally the easiest mode to start practising. People have been brought up with this mode - it is the one most commonly used, for example, in school choirs.

Condition for Neutral

- No metal (tilt)

Loose jaw

Make sure the jaw is loose at all times so that you avoid constrictions and possible 'bite' which may produce a metallic sound (for a comparison with the 'bite' see Finding the 'bite', page 104). Make sure the lower jaw is kept inwards in comparison to the upper jaw, making enough room for a finger between the upper and lower jaws (see Find the correct position of the jaw, page 48).

Loose jaw

In genoral, thu character in soft closure Neutral is weaker find more breathy than in compressed Noutml. Soft closure Neutral is also referred to as Classical/Rock or Classical/Neutral. Medium quiet (mp) Is the most powerful volume obtainable in soft closure Neutral.

Soft closure Neutral is often used in rhythmic music for quiet passages and when air is added to the voice, often with a microphone held closely. Soft closure Neutral is not used in classical music except as an effect. Soft closure Neutral is used in everyday life when you whisper or speak in a breathy voice.

Singers who often sing/sang in soft closure Neutral

Harry Belafonte, Marie Brennan (Clannad), Bing Crosby, Enya, Cesaria Evora, Brian Ferry, Art Garfunkel, Astrud Gilberto ("The Girl From Ipanema"), Eartha Kitt, Marilyn Monroe, Sinead O'Connor, Sade, Dusty Springfield, Sarah Vaughan,and Suzanne Vega.

Finding soft closure Neutral

Start by practising a breathy attack. On a breathy attack you release some air past the vocal cords before they assemble for sound-production. This air is clearly heard as an 'H' prior to the actual tone. In English you use this attack in such words as 'house', 'hundred', 'horse' and 'hey' (see Attacks, page 56).

The breathy attack is well suited to acquiring a softer closure of the vocal chords (see Air added to voice, page 186). Be careful to follow the three basic principles - keeping an open throat by using support, and avoiding tensions in the jaw and lips

f®>43

Compressed Neutral

In compressed Neutral the sound is non-breathy, more clear, and usually more powerful than in soft closure Neutral. Compressed Neutral is also referred to as Classical and the variant with a darker sound colour is referred to as Classical/Opera. Compressed Neutral requires a firmer closure of the vocal cords and is used when the sound colour is non-breathy - with weak as well as powerful volumes. Compressed Neutral lacks the metallic sound.

Compressed Neutral is often used in rhythmic music of all styles, when the notes should be non-breathy. It is used in classical music with quiet singing, for example with pianissimo and thining (see Volume, page 58). /n classical singing women use compressed Neutral when they sing in the high part of their voice, regardless of the volume. It is used in everyday life when you speak quietly without adding air.

Singers who often sing/sang in compressed Neutral

Julie Andrews, Philip Bailey (Earth, Wind arjd Fire), Beach Boys, Boy George, Blondie, Kate Bush, Nat King Cole, Richard Davies (Supertramp), Ella Fitzgerald, Gilberto Gil, David Gilmour (Pink Floyd), Godley & Creme (10 CC), Roger Hodgson (Supetramp), Milton Nascimento, Aaron Neville, the Pet Shop Boys, Carly Simon, Nina Simone, Swingle Singers, and Roger Waters (Pink Floyd).

Compressed Neutral is also used by classical singers when they sing quietly and classical female singers when sing in the high part of their voice.

In the high part of the voice compressed Neutral has also been used by Joan Armatrading, Joan Baez, Chrissie Hynde, John Lennon, Joni Mitchell, and Neil Young.

Finding compressed Neutral

Some voices are, by nature or through develop¬ment, more compressed than others, but you can train to get a firmer closure of the vocal cords. The degree of compression determines how com¬pressed the note is.

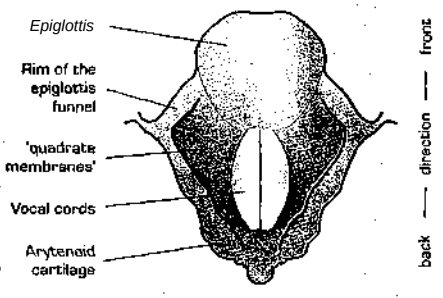
Practise making the *closure* of the vocal cords as precisely as possible. It is important to support correctly and to keep an open throat when you start on the notes. It is equally important to be conscious of how much support energy a note requires and to have arrived at this energy BEFORE the note is sung. If you start before the energy is sufficient the attack will be bad and the throat will probably constrict due to a lack of sup¬port.

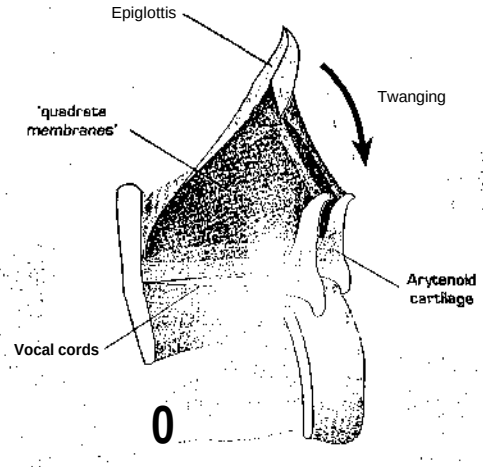
Try to make small clicking sounds with the vocal cords. Be sure there is no air or tone on the click¬ing sounds. Feel the vocal cords assemble while you hold your breath just before the clicking sound. Try to memorise this feeling of the assem-bled vocal cords and recall it when you want to make a harder closure, *fffo* 82

Making a harder closure with the epiglottis funnel

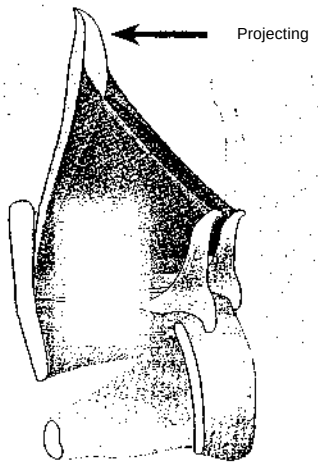
The epiglottis funnel can help make a harder clo¬sure of the vocal cords by either twanging or pro¬jecting the epiglottis funnel.

Looking down the epiglottise funnef with a mirror





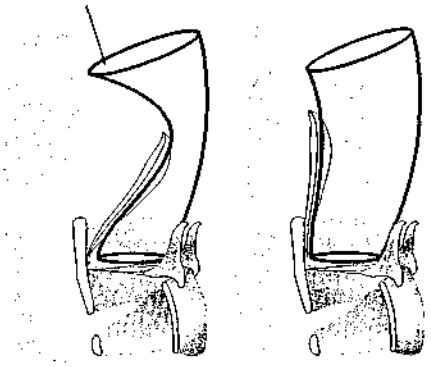
Twanging the epiglottis funnel **helps the** vocal cords acchive a harder closure.



Projecting the epiglottis funnel also **helps** the vocal cords acchive a harder closure.

Above the vocal cords are two quadrangular membranes, conveniently called 'quadrate mem¬branes'. Together with the epiglottis at the front and the aretynoid cartillages at the back, they form a funnel. You can see the rim of this funnel when you look down the throat with a mirror or a fiberscope. The different shapes that this funnel can assume affects the sound colour of your voice.

The red lines indicate the shape of the epiglottis funnel



Twanging Projecting

When the opening of the epiglottis funnel is made smaller by bringing the epiglottis closer to the ary-tenoid cartilages, the sound assumes a sharper and more penetrating and snarling character, sim¬ilar to a cackle. This is known as a twanged sound. The more the opening is squeezed the more snarling the sound becomes. You can increase your volume by 10 to 15 decibels by twanging alone (see Epiglottis Funnel, page 154).

It is easiest to find the twanged epiglottis funnel by imitating the sound of an infant crying, a duck quacking, or a diving aeroplane. ^ 75a

If the epiglottis funnel is raised the opening is made larger, giving a more round and projected (thrown forward) sound. The more upright the epiglottis the more projected the sound. This pro¬jection is known as 'carrying' or 'focusing' the sound. You can find the projected epiglottis funnel by noticing the sensation in the throat when you get **a** shiver, g| 75b

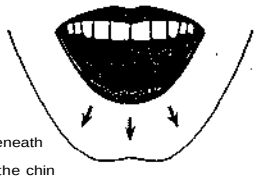
Achieving compressed Neutral through Images and sensations

Remember **tli.it** images and sensations are only meant as an old. If you do not respond to thorn Immediately, forget them. Do not confuse lhem with what is actually happening!

- Imagine projecting the epiglottis funnel by mak¬ ing the epiglottis more erect
- Raise the palate while sucking inwards
- Imagine the opening as a tube that you are squeezing into a long, thin shape
- Imagine air surrounds the tall, narrow tube
- Imagine the note is running inside the tube without touching the sides

An image

- Place a thumb behind the upper front teeth. Notice the sensation in the throat when your front teeth are being pulled forward
- Imagine a hard G before the note, tighten the muscles of the palate, and close the nasal pas¬ sage
- Start in compressed Neutral or Curbing and imagine that above the uvula there is a small low-ceilinged space that stretches from ear to ear (if you press the uvula you can often make yourself yawn). Now feel how that area con¬ tracts when you eat or drink something sour. Try to maintain this sensation and sing in Neutral
- Sing with firmly closed vocal cords and a high¬ ly raised palate
- Suck Inwards and fool the firm closure of the vocal cords as in a vocal flageolet. Sing with this fooling
- Imagine you sing while you are sucking Inwards with assembled vocal cords
- Sing while contracting the sides of the back of the tongue
- Sing while you imagine you gently pull the back of the tongue into the throat
- Sing with a very large mouth opening. Press the area just beneath the lower lip towards the chin. Maintain this pressure on the chin on all vowels and sing, for example, 'wait' or 'me'



Press the area just beneath the lower lip towards the chin

- Start with a simultaneous attack and continue singing with the same intensity
- Sing a note in Neutral with a glottal attack

Sometimes it is easier to practise compressed Neutral through the metallic modes. Therefore it can be an avantage to practise the metallic modes first - and then return to these exercises.

- Start in Curbing and sing an opera-like vowel, for example an O (as in woman) with a raised palate. Let go of the 'hold' but keep the position of the vocal tract
- Sing 'me' in Curbing (see Curbing, page 91) lower the larynx, and shape the mouth as if you were singing an O (as in woman) and let go of the 'hold'
- Start as if you were going to sing opera, pre¬ tend you are establishing the 'hold' but sing a quiet O (as in woman) in Neutral. Maintain this position on other vowels
- Find a sound in Curbing that has a classical ring in the higher part of the voice and let go of the 'hold'

Finding compressed Neutral through sound

- Try to sound like a man imitating a woman (for example as in Monty Python's Flying Circus. Keep this senssation and sing non-breathy notes in neutral.
- Sing in compressed Neutral while IMAGINING that you are singing quietly in Belting (see Belting, page 112 - take care not to actually sing in Belting. Remember it is not possible to sing quietly in Belting)
- Imagine that you are calling to somebody far away but that the call must not be heard in your immediate surroundings. This will make it sound like Belting but the volume should be quiet. This is why the mode must be com¬ pressed Neutral

How projected you want your notes is up to you. Classical singers usually prefer a much more pro¬ jected sound than rhythmic singers because pro¬ jected sounds are an important part of the classi¬ cal singing ideal of sound colour.

Rhythmic singers can also use projected notes but they must be aware that a projected note has a structure of overtones, some of which are very pronounced and can be a problem with a micro¬ phone. High frequency overtones decrease in vol¬ ume over distance more than lower frequency ones. A projected note sounds good acoustically partly because high frequency overtones are nat¬ urally filtered out as the sound travels to the audi¬ ence. When you use a microphone, as in rhythmic singing, the high frequency overtones are picked up by the microphone and can make the overall sound sharp and distorted.

Pitch in Neutral

Neutral may be used by both **men and women in** all pitches.

Vowels in Neutral

All vowel sounds can bo used in Neutral.

Volumes in Neutral

The volumes in Neutral are generally in the quiet region, from very quiet (pp) to medium loud (mf).

In compressed Neutral the volume can be more powerful than in soft closure Neutral. When you use compressed Neutral the volume can extend from very quiet (pp) to very loud *(If)* because the compression of the vocal cords increases the vol¬ ume. The very loud volume is only obtainable by singing in the high part of the voice (from c2 upwards). The volume in compressed Neutral can not be as powerful as in metallic modes.

There are no limitations where quiet singing is concerned. Just how powerfully and quietly a singer can sing in Neutral depends, amongst other things, on the size of the voice, its general degree of compression, and the technique. In general, the better the technique, the more quiet or loud you can sing.

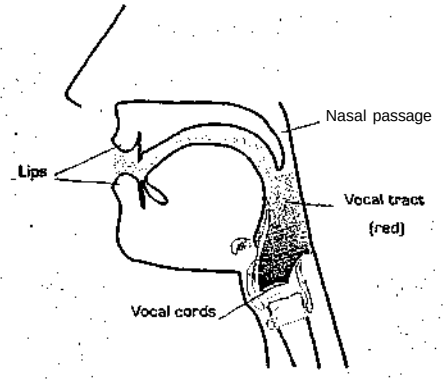
If you want to be louder in Neutral you can choose a darker sound colour by enlarging the vocal tract, by projecting the epiglottis funnel, opening the mouth wider with loosened corners, raising the palate, lowering the larynx, and perhaps com¬ pressing the tongue. Be aware that the com¬ pressed tongue usually gives an operatic sound to the vowels (see Sound Colours in Neutral, next page).

If you want to experiment on how loud you can sing in Neutral you must control the basic princi¬ ples of singing so well that you are immediately aware of when you have exceeded the limits of the voice. You must be able to control the mode without problems.

All singers are different. Some are able to sing more softly or powerfully than others. Practise until you know your limits.

Sound Colours in Neutral

When you wish to change the sound colour of a mode you have to change the setting of the 'vocal tract'. The 'vocal tract' represents all the struc¬tures between the lips and the vocal cords (see diagram).



These structures (the epiglottis funnel, larynx, tongue, mouth, palate, and nasal passage) can be moved in many ways so there are many ways to change the sound colour of the voice. If the vocal tract is large the sound will be darker. If it is small the sound will be lighter (see Sound Colour, page 152).

In Neutral there are infinite possibilities in adjust¬ing the vocal tract and therefore infinite possible sound colours.

Practise producing different combinations of sound colours and find those that suit you as an artist, your voice, and your stylo of music. One method might be to test the lightest and the dark¬est sound colour you are able to obtain. (Sl 14

Darkest sound colour:

- Projected epiglottis funnel
- Lowered larynx
- Compressed tongue
- Relaxed corners of the mouth
- Raised palate

« Closed nasal passage

Lightest sound colour:

- Twanged epiglottis horn
- Raised larynx
- Twanged tongue
- Smiling
- Lowered palate
- Open nasal passage

Neutral in classical singing

In classical singing men and women use Neutral when the volume is medium quiet (mp) or quieter. For example, with thinning and notes in pianissi¬mo. Women also use Neutral in the high part of the voice (the head voice and flute register) in all volumes.

You can obtain a classical sound colour in Neutral by using a very compressed Neutral with a dark sound colour (see Sound Colours in Neutral, above). Practise doing this and notice how the larger you make the vocal tract, the darker and richer and more classical the sound colour becomes. Be careful not to lower the larynx so much that you hinder the pitch (see Larynx, page 156).

Metal-like Neutral

Metal-like Neutral (or tilt-like Neutral) is a variance of compressed Neutral, lit is created by having a twanged epiglottis funnel in very compressed Neutral. It may sound as if there is almost metal in the sound.

Metal-like Neutral is used in the high part of the voice when you want the sound from a metallic mode but less volume. It cost less energy than the metallic modes. It is often used in R & B and pop music.

Even though Metal-like Neutral may be diffucult to find, it is good for practising firmer closure of the vocal cords.

It is often easier to practise Metal-like Neutral through the metallic modes. Therefore it may be an advantage first to practise the metallic modes and then return to these exercises.

Singers who often sing in metal-like Neutral

The Bee Gees, Peabo Bryson, Mariah Carey, Ian Gillan, Tramaine Hawkins, Mick Hucknall (Simply Red), Michael Jackson, Bobby Kimball (Toto), Ozzy Osborne, Prince, Michael McDonald, Aaron Neville, and David Lee Roth.

Achieving metal-like Neutral

Start light and very compressed Neutral. Twang the epiglottis funnel and broaden the tongue until the sound acquires a sharper and snarling char¬acter, like a cackle, but without obvious metal. The more twanged the epiglottis funnel the more snarling the sound. Make sure the vocal cords are firmly compressed so that you have a non-breathy note and start with a glottal attack, as this resem¬bles a metallic sound. Although this note is still in Neutral it should have acquired metal-like sound. @ 86a(1)

Some singers find it easier to achieve the com¬pressed sound on a high note, for example on bb2 on the vowel I (as in sit) or A (as in and). The sound can be a little howling but maintain the compression and pull the sound down in pitch. *0gi* 86a(2)

Imagine that you are humming a note in Belting but make sure it is actually in Neutral. Hum 'NG' with a slightly open mouth. Now sing the note using the vowel I (as in sit) as though you were humming it - in other words keeping the same position of the vocal tract, especially the epiglottis funnel. Notice that you now sing the note through the mouth instead of the nose. @ 86a(3)

If you control Curbing start in Curbing (see Curbing, page 91) by keeping the position of the vocal tract and gradually diminishing the 'hold'. It may feel as though you are raising the palate while the larynx is raised. (J) 86b(1)

Perform the transition in a controlled fashion and with care. If it is done too abruptly the voice may break audibly into the Neutral mode. Make sure it does not feel uncomfortable.

Sing a note in Curbing, let go of the 'hold', and change to Neutral - first audibly, then later inaudi-bly, but always without losing pitch. Make sure the change does not hurt or feel uncomfortable. Practise the transition back and forth between Curbing and Neutral so that the note in Neutral sounds like the note in Curbing.

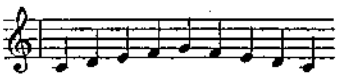
When you can make the note in Neutral sound like the note in Curbing, you have found Metal-like Neutral. Practise finding this exact position and sound every time. Practise this sound in a quieter volume because it is at this volume in particular that Metal-like Neutral is useful. *(S)* 86b(2)

Exercises in Neutral

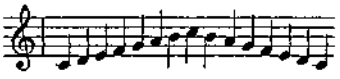
Pitch

Practise scales in Neutral up and down through five notes on different vowols. Make sure you widen the mouth as the pitch becomes higher. Do not attempt to sing TOO powerfully. Women can start on d and men on cO. From there, continue to repeat the exercise begining half a note higher each time and later begining half a note lower each time. Practise octave scales and triads in the same way. *(3b* 16a

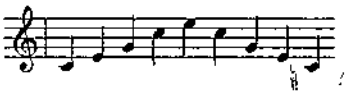
A fifth scale

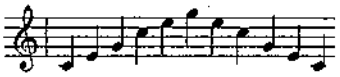


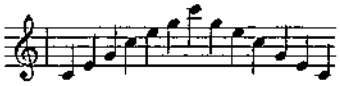
An octave scale



Triads

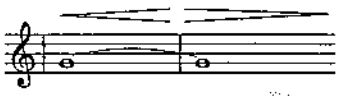






Volume

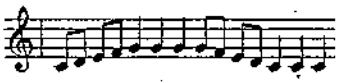
Practise crescendo and decrescendo on single notes and scales with different vowels. (8) 7



Increasing and decreasing the volume, crescendo and decrescendo

Attack

Practise a non-breathy attack by singing up through five notes, repeating the highest note three times, and then singing down through five notes, repeating the lowest note three times. Try to assemble the vocal cords before attacking the note. Recall the memorised feeling of the clicking sound (see Finding compressed Neutral, page 82). Use the ascending scale to feel how the sup¬ port value needs to gradually increase. Notice the support value on the highest note. Breathe and then find the exact same support value. Hold back on singing the note until you think you have reached the right support value. Sing the note and listen to whether your support value was correct. If not the attack will sound breathy and discordant. Adjust the support value in order to make a good attack and memorise this value for the following note. When you find the right support value for a particular compressed note, memorise the value. Sing down through five notes and practise finding the exact support value for the lowest note. Make sure all the attacks are perfect and non-breathy. Continue to repeat the exercise begining half a note higher each time.£3* 5



Practise a non-breathy attack

Air added to the voice

If you want to add air to the voice you could also practise this all the way through the various parts of the voice. But remember that now it becomes impossible to sing powerfully (see Air added to the voice, page 186).

Sound Colours

Practise finding as many sound colours as possi¬ble by experimenting with your vocal tract. Find the lightest and darkest sound colour in your voice. Practise accomplishing the lightest and darkest sound colour in the high as well as in the low part of your voice. Sing, for example, octave scales, g) 14

Sing a song in the different colours you can find in your voice. Then try accomplishing songs in the sound colours you prefer - the ones you think suit you, your temperament, and your voice.

Practise projecting and twanging the notes - grad¬ually more and less on single notes, and then on scales such as octave scales. (®v 9

Sing an octave scale. Start the scale with a dark sound colour by lowering the larynx and projecting the epiglottis funnel. Then, as you ascend the scale, make the sound colour progressively lighter by gradually raising the larynx and twanging the epiglottis funnel. Make sure the high notes are delicate, light, and non-breathy. Now descend the scale and make the sound colour darker by low¬ering the larynx and projecting the epiglottis fun¬nel. Continue to repeat the exercise begining half a note higher each time. (3) 16b

Songs

Accomplish a whole song in Neutral, **both** in com¬pressed Neutral and soft closure **Neutral.** (^ 16c

Classical singing

When you have found the sound colour you pre¬fer sing scales and songs whilst maintaining the sound throughout the pitches. Keep the com¬pressed tongue as it is this that, in part, gives the vowels their classical sound. Practise completing this sound colour in all pitches and on all vowels. i®i 16d

Metal-like Neutral

Sing a note in Curbing in the pitch you find easi¬est and change to Neutral without altering the pitch. Practise changing between the modes to become certain of the feeling of the change. Gradually make the two modes sound alike - in other words, locate the positioning necessary to make Neutral sound like Curbing. Sing a note in Curbing, maintain the shape of the vocal tract, and change to Neutral. Now you are singing Metal-like Neutral. As a test try to add the 'hold' again. If you have maintained the shape of the vocal tract the note should return to Curbing. £J) 20a

Find the vowel you think is easiest and practise- • the note with a simultaneous attack. Raise the lar¬ynx slightly and raise the palate along with the pitch, but only so that the sound still resembles Curbing. Remember that it must feel comfortable. Women can start from e1 and men on aO and from there repeat the exercise begining half a note higher each time. Practise completing this sound in all pitches and on all vowels. (g) 20b

Make sure the mouth opens more as you go up in pitch. Be careful not to sing Metal-like Neutral too powerfully. You might force your voice, and risk discomfort as well as wear.

Warnings in Neutral

- Remember to keep a loose jaw
- Avoid metallic sounds by keeping the volume down and the jaw relaxed
- Avoid singing too powerfully in Neutral (this does not apply to women in the high part of the voice and men in the very high part of the voice). Powerful singing in compressed Neutral is particularly wearing in the middle part of the voice

It is a good idea now and then to return to and practise the extremes of Neutral. You may find soft closure Neutral too breathy and quiet, while compressed Neutral may sound too non-breathy. However it is important to locate the perfect, healthy positions for the extremes of Neutral so you do not lose the mode while you are experimenting.

Remember that Neutral contains all sound colours and many of these you will be unaccustomed to. It is acceptable for sounds to be 'ugly' during practice but NOT for the process to feel wrong, or physically unpleasant.

Unintentional distortion In Neutral

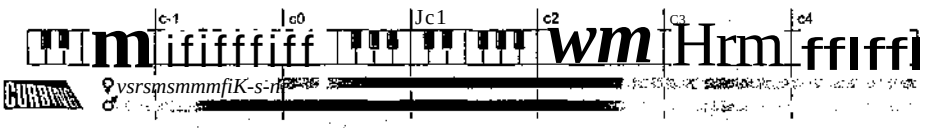
When you prnctlso **Neutral you hnvo to be on** your guard against **unintentional distortions.** This may be described as **a** 'scratching' or **'jarring'** sound on the notes. If an unintontlonal distortion occurs it is usually because, although you have positioned for Neutral, there is a metallic sound in some degree. In other words you are using the mode outside its limits.

- You have a metallic sound because of 'biting' as in Overdrive (see Finding the 'bite', page 102)
- You have a 'hold' as in Curbing while you use too little volume (see Curbing, page 91)
- You may be singing too loud in Neutral
- You are singing with a little bit of air on the voice in compressed Neutral and are trying to make the voice non-breathy through constrictions
- You may not have been aware of constrictions that appeared because of tensions in the jaw or lips or because of a lack of support

The unintentional distortion might feel comfortable and sound pleasant but it should be avoided as it can result in a blurring of the modes if used over a longer period of time. If you consciously want to produce a distortion it should be practised specifically (see Distortion, page 170).

Curbing

mode	CURBING HALF METALLIC
closure of the vocal cords	never add air to the voice
method	HOLD
vowels in the high part of the voice	0 1 as in: (woman) (sit)
pitch	all
volume	medium
character	restrained



An overview

Curbing is the half metallic (half tilted) mode - there is slight metal on the notes. It is the mildest of the metal¬ lic modes, softer and not as powerful as Overdrive or Belting but still powerful compared to Neutral. The sound is often slightly plaintive and restrained, not quite as direct or provocative as Overdrive or Belting. The name Curbing describes what it might feel like you are doing to the sound - you are holding it back, preventing it (curbing it) from becoming full metallic. Curbing can be found by establishing a 'hold'.

Men and women can use Curbing all through the voice. Curbing is used when a sound more pow¬ erful than Neutral but quieter and more restrained than Overdrive or Belting is wanted. Women mostly use Curbing when they have to sing pow¬ erfully between ft - f2 but do not want the aggres¬ sion of Belting. In the high part of the voice Curbing often merges into Belting or compressed Neutral.

All Ihe vowols can be used but in the **higher part** of Ihe voice Ihey need to bo directed towards I (ns in sit) or O (as in wornnn) to stny in the mode.

Curbing largoly slnys In Iho medium volumo range, from moillum <|ulot (mp) lo modlum loud (mf). Very qtilot (pp) volumes nro not attainable. Very loud (ff) volumes are only attainable in clas¬sical singing in the middle part of a woman's voice.

The sound colour can be altered extensively.

Curbing is used in almost all styles of rhythmic music (such as in soft soul/R & B music) when the volume is medium loud and a certain amount *of* metal is required.

Curbing is used in classical music by men when singing medium loud (mf) and by women when singing loud (f-ff) in the low part of the voice.
Curbing is used in everyday life when you are wailing, moaning, or whining.

Slngors who oftan slng/tang In Curbing Include:
Aco Of Baso, Chnrles Aznavour, Beach Boys, Boo Gooa, Guorgo Bonson, Mary Black, Michael Bolton, **David** Bowlo, Toni Braxlon, Gary Brooker (Procol Harmn), Poabo Bryson, J J Cale, Mariah Cnrey, Ray Charles, Neneh Cherry, Eric Clapton, Marc Cohn, Phil Collins, Elvis Costello, Sheryl Crow, Terence Trent D'Arby, Roger Daltrey, Sandy Denny (Fairport Convention), Donald Fagan (Steely Dan), Agneta Fälgtskog (ABBA), Peter Gabriel, Liam Gallagher (Oasis), Ian Gillan, Emmilou Harris, Steve Harley (Cockney Rebel), Murray Head, Jimi Hendrix, Don Henley (Eagles), Mick Hucknall (Simply Red), Iggy Pop, James Ingram, Mick Jagger, Elton John, Nusrat Fateh Ali Khan, Bobby Kimball (Toto), Tommy Korberg, KD Lang, Lyle Lovett, Michael McDonald, Madonna, Meat Loaf, soloists in Mills Brothers, Roy Orbison, Elaine Paige, Robert Plant (Led Zeppelin), Zach De La Rocha (Rage Against The Machine), Lionel Richie, Paul Rogers (Free, Bad Company), David Lee Roth, Seal, 'Skin' (Sylvia Massy, Skunk Anansie), Status Quo, Stephen Stills, Sting, Michael Stipe (REM), Jennifer Warnes, Fee Waybill (The Tubes), and Stevie Wonder.

Generally this list is made up of female classical singer when they sing loud (f-ff) in the middle part of the voice and male classical singers when they sing medium loud (mf).

Condition (or Curbing
Can be found by establishing a 'hold'.

Finding Curbing

Curbing may be established by holding your breath and applying a large amount of support. Notice how it feels: as though something Is hold¬ ing your larynx; as though there is a pressure; as if something is held in *an* exact position; or as if something is turning. This sensation is known as creating a 'hold'. Maintain the 'hold' and say 'O' (O as in woman) as if you had stomach pains. Notice the restrained and plaintive sound that emerges. Make sure you do not impair the voice with con¬ strictions. Even though the sound is restrained it should still be clear and free, not squeezed in or stifled. It must not hurt or be uncomfortable. Now try to sing another note with the 'hold'. ^ 83a

At first it is a good idea to find Curbing by means of the 'hold' and make sure that the 'hold' is estab¬ lished BEFORE a note is sung.

The 'hold' is merely a tool to find and maintain the mode. Once you have practised Curbing suf¬ ficiently to control the mode it is no longer neces¬ sary to establish it beforehand. It should have been worked in as a natural part of the mode.

In the beginning it might help to practise Curbing by means of the simultaneous attack (see Attack, page 56).

It helps to raise the palate slightly as you go up in pitch (you raise the palate when inhaling for a yawn - see Palate, page 162). The higher the notes you use in Curbing, the more raised the palate must be. Be careful to raise the palate cau¬ tiously and with great control. If it is raised too abruptly the larynx is usually lowered and the half metallic sound is lost.

In the beginning it is usually easier to find Curbing by twanging the epiglottis funnel slightly, raising the larynx a little, keeping the palate lowered, and the tongue slightly broaded by placing it on the molars in the upper part of the mouth (see Epiglottis Funnel, page 154; Larynx, page 156; Palate, page 162; and Tongue, page 159).

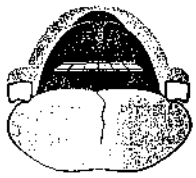
Once you can control Curbing you will no longer need the vocal tract to help the positioning. Skilled Curbers often adopt many other positions of the vocal tract.

Achieving Curbing through images and sensations

Remember that images and sensations are only meant as an aid. If you do not respond to them immediately, forget them. Do not confuse them with what is actually happening!

- Inhale and make a slight sound while suddenly holding your breath; or cough and feel a small 'hold' just prior *to* the cough (a 83b(1)
- Assemble the vocal cords and imagine making a small sound by sucking inwards while keep¬ ing the vocal cords together. Maintain this feel¬ ing of the assembled vocal cords and make a plaintive sound by singing ordinarily (outwards). This may produce a sensation like Curbing
- Imagine lifting something heavy. Notice how you prepare inside the larynx BEFORE the lift. Maintain this feeling and start on the note with a simultaneous attack
- Imagine that you are feeling really sorry for yourself and listen to how the sound becomes plaintive because of the 'hold' g) 83b(2)
- Imagine that you are speaking while you are crying. Feel the 'hold' and listen to how plaintive Curbing sounds
- Imagine a large ball placed in the throat and apply a great deal of support. Try to assemble the vocal cords across the ball while singing I (as in sit) or O (as in woman). Sing on top of the ball with a lot of compression - as powerfully and non-breathy as possible, without an unpleasant feeling

- Sing a low note with a high-positioned larynx like a child
- Imagine you are disgusted by something while singing
- Imagine you are about to cough but stop and maintain that feeling.
- Some singers lower the larynx too much in Curbing which may make them lose the metal¬ lic sound. Counteract this by imagining that you are 'staying on the upper edge' of the note. Do not keep the note 'down' - let it float. Imagine the note has a floor and you must not sing under this floor



An image: the note has a floor
and you must not sing under this floor

- Imagine you are keeping the 'hold' at the front while 'opening' the vocal cords at the back

Finding Curbing through sound

You can try to find Curbing by means of sound by:

- applying a great deal of support saying I (as in sit) or O (as in woman) as if you have stomach pains
- imitating a rogue, or a stereotypical Italian from an American movie such as The Godfather g| 83b(3)
- imitating someone who is crying quietly
- imitating a child who is just about to cry
- imitating someone who feels sorry for himself
- imitating a child who is overly tired, quite impos¬ sible, and does not want to do anything (ja 83b(4)
- whimpering like a puppy
- clenching your teeth and saying a rather loud U (as in you)! or **o** (as in woman)

BE CAREFUL NOT TO LACE THE **VOICE WITH** CONSTRICTIONS. EVEN THOUGH **THE NOTE** IS RESTRAINED THE SOUND MUST BE CLEAR AND FREE, NOT HALF-SMOTHRED.

Notice the feeling and listen if the sound Is restrained and plaintive. Some singers like to get accustomed to the feeling first and then focus on the sound. Once you control Curbing the feeling and sound 'may come by itself. After that the sound may be made more or less plaintive. If the mode is difficult to find start by making a very plaintive sound just to find it. When you are famil¬ iar with it make the sound less plaintive. Notice that when you find the exact setting for the mode it usually costs less energy than when you are try¬ ing to find it.

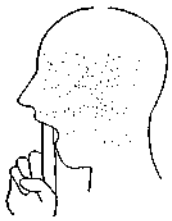
Be aware of the position ol the jaw in Curbing

Be careful not to lose the 'hold' while you sing. If the 'hold' is not sufficiently established the voice might either lose the half metallic sound or become full metallic. In the beginning it may seem like a balancing act to sing in Curbing, because the Curb may be lost in both directions - Neutral one way or Overdrive/Belting the other. Curbing is regarded by many as the most difficult mode and the last one to fall into place.

Singers who mostly use Neutral often benefit from making a 'bite' as in Overdrive to achieve Curbing (see Finding the 'bite', page 104). If they maintain the 'bite' they can usually maintain Curbing and prevent the voice from returning to Neutral.

The Tiite[1]

On the other hand singers who are used to singing In Overdrive or Belting may obtain Curbing by consciously keeping a loose jaw. In doing so the voice has a harder time returning to the familiar Overdrive and Belting and ends half way in Curbing.



Loose jaw

Be careful not to lose the 'hold' while singing in Curbing as it may be painful and can damage your voice.

Pitch and Curbing

Men and women use Curbing all through the various parts of the voice. In the high part of the voice, however, Curbing often merges into Belting or compressed Neutral. Women particularly use Curbing when they are unable to move higher than d2 in Overdrive and when the volume should not be as powerful as in Belting.

The higher the voice sang in, the more powerful the volume becomes, while the sound colour becomes lighter. The vowels should be directed more and more towards I (as in sit) or O (as in woman) as the voice becomes higher. Even though Curbing becomes more powerful in the higher part of the voice it will never be as powerful as Overdrive or Belting.

There is no lower limit to how deep you can sing in Curbing, but the mode becomes weaker, more squeezed in, and flattened in the lower part of the voice. In the low part of the voice Neutral and Overdrive are used more than Curbing, as these modes are capable of producing darker and less squeezed in sounds.

Curbing is easiest to use in the the middle part of the voice, and the sound may assume many different sound colours.

Vowels in Curbing

All vowels can be used in the low part of the voice but in the higher parts of the voice It is necessary to direct the vowels towards O (as in woman) and I (as in sit) to remain *In* the mode, ^a 83C(1)

It is Important in the beginning to prevent the back of the tongue from lowering the larynx as this may feel uncomfortable and damage the voice. Therefore all A-vowels are difficult in Curbing. Especially back vowels like AH (as in far) must be kept strictly in place by the 'hold'. Pronounce the difficult A-vowels (A as in and, AH as in far) as O (as in woman). Later, you can gradually try to make the vowels sound like A.

Once you have better control of Curbing, you can lower the larynx and make the sound colour darker as in singing classical. ^ 83c(2)

Vowels EE (as in see) and U (as in you) can be difficult as they tend to lose the metallic sound and move towards Neutral. Therefore a stronger 'hold' often must be applied to these vowels. You must be careful when raising the palate as thig might tempt the voice into changing to Neutral. " @83c(3)

The vowels EH (as in stay) and OH (as in so) are very difficult to sing in Curbing, as they tempt the voice into Overdrive. It requires confidence to sing EH (as in stay) and OH (as in so) without ending up in Overdrive. In the beginning I recommend replacing EH (as in stay) with I (as in sit) and OH with O (as in woman). Later EH and OH can be pronounced in the direction of (as opposed to being completely replaced by) I (as in sit) and 0 (as in woman) respectively.

You also have to be careful with the volume *on* EH and OH, as powerful volumes will tempt them into Overdrive. If you keep the volume down it will be easier to remain in Curbing. Remember it may help in the beginning to avoid EH and OH com¬ pletely until you gain full control over Curbing. ^ 83c(4)

This method goes for all the vowels in Curbing, if a vowel presents a problem It may be directed towards or replaced with the vowel you find easi¬ est, most often I (as in sit). Later when you can control the note on the easy vowel attempt the more difficult vowels whilst keeping the back of the tongue in EXACTLY the same position.

Just how much you have to direct vowels towards O (as in woman) and I (as in sit) varies from singer to singer. An experienced singer does not need to stick to 0 (as in woman) and I (as in sit) as rigidly as a less experienced one.

At first it may help to exaggerate the plaintive vowels in order to find the most comfortable posi¬ tion in Curbing. When *you are familiar* with the position for Curbing and are capable of singing all the vowels in a healthy manner you can practise making the vowel sounds less plaintive.

Volumes in Curbing

The volumes in Curbing are largely medium. It is not possible to sing very quietly (pp) in Curbing as the voice will lose the metallic sound and end up in Neutral.

The higher the voice the greater volume required. But be careful not to sing too powerfully in Curbing as it usually results in a full metallic mode {Overdrive or Belting). If this happens while the 'hold' is maintained it may feel uncomfortable and wear the voice.

You can sing more quietly in Curbing in the lower part than in the higher part of the voice. Therefore in the lower part of the voice there is greater pos¬ sibility of using different volumes than in the high¬ er part.

All singers are different. Practise until you are familiar with how powerfully and how quietly you can sing in Curbing.

^A case story

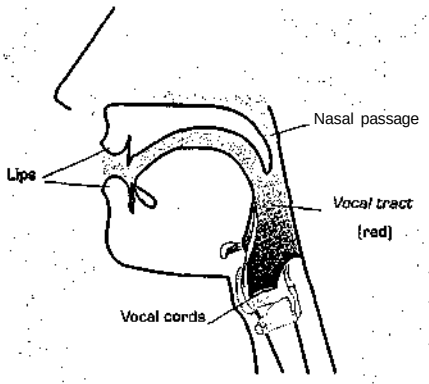
A soul singer had an unusual problem. His voice felt sore every time he had to sing quietly. As it turned out he sang in Curbing but in quiet passages he let go of the support.

At first we worked on maintaining support on quiet notes in Neutral - the quieter a note the more support required. The quiet notes became more intense and sustained. Eventually the singer could pro¬ duce thinnings and sing very quietly (pp) (see Volume, page 58). We then transferred this support to Curbing so he could feel the minimum support required to maintain the mode. After that, the singer was able to feel that if he wanted to keep the Curbing sound, the volume could only diminish to a certain limit - name¬ ly medium quiet (mp). If he wanted a *more quiet* vol¬ ume he would have to change to the Neutral mode.

When the singer was able to control the difference in volume between Curbing and Neutral and was also able to change between the modes - in other words when he no longer just let go of the support when he sang quiedy - the irritation in the voice disappeared and he was even able to sing in very quiet volumes.

Sound colours in Curbing

When you wish to change the sound colour of a mode you have to change the setting of the vocal tract. The form of the vocal tract can be moved in many directions, so there are numerous ways of changing sound colour (see Sound Colour, page 152).



The sound colour in Curbing is often light and a lit¬ tle plaintive but you can easily colour Curbing in other directions. Once you can control Curbing you can experiment with changing the sound colour by changing the vocal tract. Almost all sound colours are possible but remember the darker the sound colour the greater the risk of los¬ ing the metal.

In order to change the sound colour in Curbing you need to perfect the basic principles of singing as well as the 'hold'. It is important that you know your voice well enough to know the moment you reach its healthy limits.

Remember, you should only attempt to change the sound colour in Curbing if you can control the mode without problems - if you can control Curbing in relation to pitch, volumes, and vowels.

Darkest sound colour

If you want a darker sound colour in Curbing {usu¬ally desired by women in the low and middle part of ihe voice during classical singing) you can increase the size of the vocal tract. Choose one or more of the following possibilities to darken sound colour: ^ 83d(1)

- Project the epiglottis funnel
- Carefully lower the larynx without losing the 'hold' (remember the lighter a metallic mode the safer it is)
- Raise the palate more (be careful that the voice. does not lose the metallic sound as this might feel uncomfortable)
- Open the mouth more with the corners of the mouth more relaxed
- Close the nasal passage
- Compress the tongue (this gives the notes an opera-like sound colour)

Lightest sound colour

If you want a lighter sound colour you can reduce the size of the vocal tract. Choose one or more of the following possibilities, g| 83d(2) ^

- Twang the epiglottis funnel
- Raise the larynx
- Lower the palate (but make sure the notes get enough 'room')
- Open the mouth more as in a smile
- Open the nasal passage
- Broaden the tongue

Even though you may become very good at Curbing and changing sound colour it is a helpful to return to and practise the exact positioning. Perhaps the exact position for Curbing gives too plaintive a sound colour for your taste, but it is important to feel where the exact, perfect, healthy position is so as not to lose the 'hold' or the mode while experimenting.

Curbing In classical singing

You can also obtain a classical **sound colour** In Curbing. Start by practising tlio exact poslllon of the mode. Then try to project Ihn epiglottis funnel even more, lower the larynx, and ralss the pnlalo without losing the 'hold'. Sing single notes with this feeling.

When you are familiar with this feeling, experi¬ment - still on single notes - with how large you can make the vocal tract. The larger you make the vocal tract the darker, richer, and more classical the sound colour becomes. Be careful that you do not lose the 'hold' or the metallic sound when you project the epiglottis funnel, lower the larynx, or raise the palate.

Men (for example counter tenors) use Curbing in the whole range of their voice in classical singing when the volume is meciium with a certain amount of metal.

Women often use Curbing in classical singing, usually in the middle and low part of the voice, When they have to sing loudly (for example Kathleen Ferrier).

A case story

An opera singer (soprano) was closing her vocal cords too softly after an illness. She had too much air in the voice - especially in the middle part. She was desperate as opening night *was* drawing close and she had been practising closing her vocal cords for weeks through exercises in compressed Neutral with no effect.

Instead of compressed Neutral we started working on Curbing. At first we established the 'hold' and immediately she could hear how the compression became stronger. Her compression became as good in the middle part of her voice because of Curbing, as it was in the high part of her voice in compressed Neutral.

Once she achieved firm closure of the vocal cords through the various parts of the voice, we started to alter the sound colour in Curbing, so that it would suit the classical sound colour ideal. She worked on main-

mining the 'hold' for Curbing while simultaneously making the size of the vocal tract larger until she had the sound colour she wanted. After two days the clo-Hiirc of the cords was completely firm and she even obtained louder volumes in die middle part of her voice than ever before. The opening night was a great sneecs and the critics said she had never sounded bet¬ter.

Exercises in Curbing

It is often easier to begin Curbing in an accentuat¬ed legato - giving the note a minor run up. Sing a lower note and slowly pull it up to the note you want. This usually gives you more time to estab¬lish support.

High notes

Find the vowel that you think is easiest to sing - usually an I (as in sit) or O (as in woman). Practise Curbing on single notes. Start each note with a simultaneous attack. When you perfect Curbing you can use any attack. Maintain the 'hold' and perhaps raise the larynx and palate slightly as the notes become higher. Be careful not to lose the 'hold' and remember that it must feel comfortable. Women can start from g1 and men from d. Continue to repeat the exercise begining half a note higher each time. Do not sing higher than feels comfortable. In the beginning you should practise Curbing in a lower part of the voice where it is easier to learn the mode rather than in a high¬er part where Curbing is more difficult and often fails. @ 17a

Vowels

When you have perfected Curbing on an easy vowel keep the back of the tongue in EXACTLY the same position and practise the other vowels. Start practising O (as in woman) and I (as in sit), then EE (as in see), U (as in you) and A (as in and), and OE (as in herb).

EH (as in stay) and OH (as in so) are very diffi¬cult vowels as they tempt the voice to change to Overdrive. Avoid them at the beginning and return to them once you can control the mode without problems. But remember to direct EH (as in stay) and OH (as in so) towards I (as in sit) and O (as in woman) because they ensure the 'hold' is main¬tained. Start with the vowel I (as in sit) and direct it carefully towards EH (as in stay). Start witrh the vowel O (as in woman) and direct it carefully towards OH (as in so). In both cases stop before the voice changes abruptly into Overdrive. Accept the slurred sound of the vowel. <gj 17b

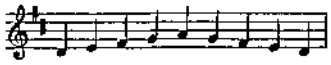
Low notai

Then prnctlnn Curbing on lower n. . . . . .HD <-.;iroful ID ii);ili)lnln Din 'Jiolrf on Illi) nnlir. Al HID lJDl,JIII-nlii'i II nuiy Innl MM lhoii()h HID IDWDI you '.lull lho IDDID you lwivi) to \nuDU/n In HID noli-[1]. Ymi inir;l **111 I D|l| ihUl II** ID '.Dill III I:D|||||| llDi.DMID'. IIIDID 11|. Ill I llvn Ilin IOWDI yiin MIX) If you In'.c Urn < 111 a I > nn a ni)ln lulurn ID DID pii'vloiiH MIIID wlii'in yDii :.hll had II, find try to K < •• -j • iho sumo iDrlmij for Iho dif¬ficult note. Women can start from ,i|l and men from d, and from Ihciru ropuat the oxorciso begln-ing half a note lower onch lime, fljii 17c

Scales

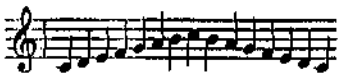
When you control Curbing on single notes prac¬tise Curbing on scales up and down through five notes, again at first on the vowel you think is eas¬iest. Start each note with a simultaneous attack. Make sure the palate is slightly raised and the mouth opens wider as the pitch gets higher. Don't sing in Curbing so quietly that the voice changes to Neutral. The volume increases the higher you sing. But also don't sing too powerfully as you could force your voice which is uncomfortable and may wear. Women can start from d1 and men from d and from there sing a scale up and down through five notes. Repeat the exercise begining half a note higher each time, and later half a note lower each time. 17d

A fifth scale



When the five note sequences (fifths) aro perfect¬ed the exercise can be expanded to Include octave scales and triads.

An ontava aonla



Triad

Songs

Complete a song in Curbing. Repeat the song upwards by half notes. Remember to direct the vowels towards I (as in sit) and 0 (as in woman) the higher the pitch. @ 17e

Classical singing

When you have located the classical sound colour you desire, sing short and later longer scales, and maintain the sound colour all the way up and down. Make sure not to impair the pitch even though the position of the larynx is low. Keep the tongue compressed to preserve the classical sound. Practise completing this sound colour in all parts of the voice, and on all vowels. £§* 17f

Warnings in Curbing

- Never add air to the voice when singing in Curbing
- It can be difficult to maintain Curbing in the high part of the voice because here the voice often becomes either sharp and metallic and turns into Belting, or softer and less metallic and turns into Neutral
- Both men and women should apply sufficient support from c1/c2 to make sure the 'hold' is established, to avoid losing the metallic sound, and to prevent a break in the voice
- Be careful not to lower the larynx TOO much in Curbing as it might feel uncomfortable and be wearing on the voice
- The higher the pitch the more distinctly the vowels have to be directed towards O (as in woman) or I (as in sit)
- The higher the pitch the more powerful the volume becomes. However, you must never sing very powerfully (ff) in Curbing as it may wear the voice
- Be careful not to practise Curbing at too quiet a volume (pp) as this wears the voice

A case story

A very experienced jazz singer had problems in reaching high notes. She did not think the character of Neutral suited her style, being too soft. Neither did she feel that Belting suited her, sounding too much like rock. She had experimented and found a sound she liked (Curbing); but when she sang this way she became exhausted, got pains in her voice, and the notes often failed.

The reason was that she feared the 'hold' was a harmful constriction so she avoided it. As she was quite happy with the sound of Curbing we practised using the mode in a healthy manner by adding in small pauses before each Curbing note. Using this small pause made the 'hold' clearer for her and she practised it as a natural part of the mode. After a short while she considered the 'hold' helpful instead of a constriction. As soon as she established the 'hold' she could sing the high notes without hurting or failing. When she got used to the 'hold' in Curbing she no longer needed the small pauses and she no longer had problems reaching the high notes.

Unintentional distortion in Curbing

When you practise Curbing you must be on your guard against unintentional distortion - 'scratching' or 'jarring' sounds. If there is an unintentional distortion it is usually either because the 'hold' is not established correctly, the notes are not metallic enough, or the volume is too loud.

- You may have been unaware of a constriction in the throat. This may occur due to muscular tension in the jaw or lips or maybe due to a of lack of support (muscular tension in the jaw or lips must not be confused with the 'hold')
- You may have lost the 'hold' and in doing so the voice is about to change to Neutral
- Perhaps you have a 'hold' for Curbing at the same time as trying to make a full metallic sound as for Overdrive or Belting. This can strain the voice
- Perhaps you are using too powerful a volume for Curbing
- Perhaps you are about to raise the palate so much that the larynx lowers which can complicate a Curb
- You may be singing at too quiet a volume for Curbing causing the voice to lose the metallic sound and change to Neutral

The unintentional distortion might feel comfortable and sound pleasant but should be avoided as it can result in a blurring of the modes if used over a longer period of time. If you consciously want to produce a distortion, it should be practised specifically to avoid wear on the voice (see Distortion, page 170).

Finding Overdiiv<!

Finding 'thn lilln'

Thr INK.i‹ inpiiiiiini ihinQ in **Ovirclrlvt li to** main¬tain ihn inn nH.iniHi; NDIIIKI. **The •••lilt way to** find Ilù. i‹ ▷v '‹•.i.ihii.iiilnu 111* **•o-onllad 'bite'. You** nund in in. 111 ii.ihi HIIH lilln[1] if **you** want **to sing** In Overdrlvn.

Use the 'bice' to establish Overdrive

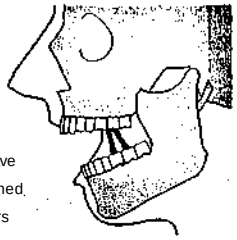
- **A 'bite' may be established by:**
  - smiling with a closed mouth and dropping the jaw while keeping the position of the upper lip so that the lower jaw hangs inwards compared to the upper lip
  - shaping the mouth like the Joker in the Batman movie
  - making sure there is room for a finger between the jaws - the lower jaw must always be further in than the upper jaw (see The Three Basic Principles, page 60)
  - positioning the jaw like when you bite into a large apple. Imagine removing the apple while maintaining the 'bite'. Do not clench your teeth. There may be a small muscular tension in the jaw-joint but there should not be one in the lower jaw or the chin

Bice at the front

Finding the bite' through images and sensations

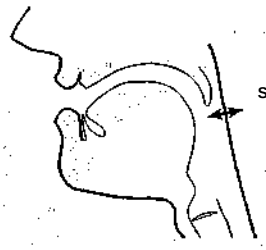
Remember that images and sensations are only meant as an aid. If you do not respond to them immediately, forget them. Do not confuse them with what is actually happening!

- Imnrjlno Hint you have rubber bands slrolched bnlwoen tho inolnrs in tho **upper** and the lower pnrl of lho mouth. Try to **stretch** tho rubber bunds **furthor** but without moving the Jaw. Feel the tightening In the jaw-Joint



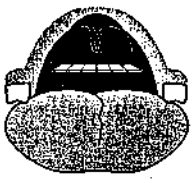
Imagine that you have rubber bands stretched between the molars

- Imagine, without clenching your teeth, that your teeth are stuck together with caramel and that you try but cannot separate them
- Imagine that there is a wooden block between your teeth while you are trying to 'bite' together
- Imagine that you pull out the corners of your mouth and 'tie them around your neck'
- Imagine that you are shivering. Notice how the feeling is almost like sucking inwards. Try singing with this feeling. As if you are singing out of the back of the head or 'opening up' the back of the head
- Imagine that you are sucking on a clogged up straw. Feel how the back wall of the oral cavity is tightened
- Tighten the back wall of the oral cavity so that it stretches like a sail, and press against it so as to give a double feeling of tightening in the back wall



Sensation: tighten the back wall

- Imagine biting on n finger, then removing the fingor, but maintaining the 'bite'. Do not actual¬ ly bitn tnrjnther
- Imayino Hint your tooth are moving out of your month while you sing. Notice how you tighten the back wall of tha oral cavity
- Imagine that you are disgusted by something that you do not want near you while singing
- Imagine that there is a floor on the back wall of the oral cavity and that no Overdrive notes are allowed under this floor. You can expand notes above the floor in all directions, upwards and sideways, but not under it



Imagine that there is a flaor on the back wall

- Show your innermost molars when singing
- Smile like when you pretend you understand something you do not

The 'bite' is an educational tool to find and main¬ tain the mode. Once you are familiar with and can maintain the mode you may not need it any more.

Finding Overdrive

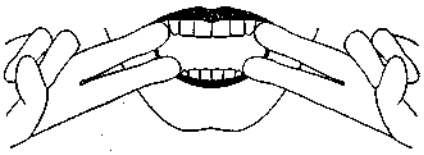
Find and maintain the 'bite' (see 'Finding the bite' page 104). Apply a good deal of support and sing/shout a long powerful EH (as in stay) sound. Eventually put an H in front of the sound as in 'hey'. Start with a glottal attack (see Attack, page 56) and continue with the same sound and inten¬ sity. If Overdrive is difficult to find make the sound more sneering and provoking. Q 84a(1)

In the beginning it is easier to find Overdrive by twanging the epiglottis funnel slightly, raising the larynx slightly, opening the mouth wide, and extending the corners of the mouth sideways. Keep the tongue as you like but lower the palate and close the nasal passage.

Once you can control Overdrive you will NOT need to shape the vocal tract so strictly. Singers who are skilled at Overdrive often use many other positions within the tract.

Finding Overdrive through images and sensations

- Show your teeth while you sing
- Placing your fingers on your teeth, keep the lips in this position as you sing (see diagram)



Find Overdrive by singing with your fingers on your teeth

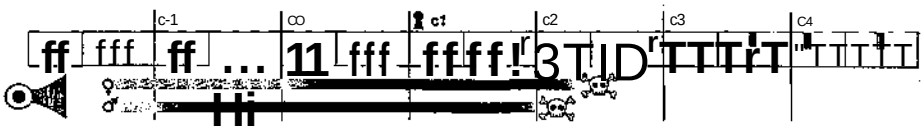
Finding Overdrive through sound

In Overdrive the character is usually loud and shouting with a certain amount of metal. The more you lower the larynx the darker the sound colour. You can find Overdrive by means of sound by: g 84a(2)

- imitating market sellers
- shouting to someone in the street
- crying for joy (as if someone has scored a goal in a football match)
- speaking provokingly in a rough manner
- singing like at a football match
- imitating a loud drunk
- finding a vocal break in the lower part of the voice between at quiet note (Neutral) and a loud note (Overdrive or Belting). Retain the feeling of the loud note while singing a higher pitch. Be careful not to sing higher than d2 for women and c2 for men

Overdrive

nioiln	
	Fill 1 META1LIC
oloiurt of *tha* vooal cordf	novor add air to the voice
method	•BITE[1]—* _^
vowels in the high part of the voice	EH (stay) OH (so) as In:
pitch	r^ max V d2 if max CT c2
volume	loud
character	shout



An overview

Overdrive is a full metallic (full tilted) mode. Its character is often direct, loud, and shouting, like when you call 'hey' after someone in the street. In this mode the vocal cords are very compressed. In the beginning Overdrive can be found by estab¬lishing a 'bite'.

In terms of pitch, Overdrive is the most limited mode, especially for women. The upper limit for women is d2/eb2 and for men is c2. There is no lower limit.

All vowels can be used in the low part of the voice but in the high part you can only use EH (as in stay) and OH (as in so).

The sound colour can be altered but do not try to change the shouting character too much when in the high part of the voice.

The volume in Overdrive is mostly loud. However in the lower part of the voice medium volume is possible. The higher the notes the more loud and distinct the shouting character becomes, and the more distinct Overdrive becomes from Neutral and Curbing.

Overdrive is the most commonly used mode in the low part of the voice when speaking or singing loudly. It is used in rhythmic music in almost all styles when the volume is loud and when a great deal of metal is desired, for example in rock music.

Overdrive is used in classical music by men when they sing loudly (f-ff). Women do rarely use Overdrive in classical music, except some in the low part of the voice (also called chest voice), for example, Maria Callas.

Overdrive is used in everyday life when you are shouting.

Singers who often sing/sang in Overdrive

Joan Armatrading, Patti Austin, Anita Baker, LaVern Baker, Shirley Bassey, Bono (U2), La Voix Mystere Bulgare, Johnny Cash, Mama Cass, Tracy Chapman, Cher, Patsy Cline, Leonard Cohen, David Coverdale, Roger Daltrey (The Who), Ray Davis (The Kinks), Sammy Davis Jr, Marlene Dietrich, Ronnie James Dio, Vaya Con Dios, Celine Dion, Melissa Etheridge, Aretha Franklin, Marie Fredriksen (Roxette), Judy Garland, Lowell George (Little Feat), Juliette Greco, Corey Glover (Living Colour), Buddy Guy, Gypsy Kings, James Hetfield (Metallica), Jennifer Holiday, Noddy Holder (Slade), Buddy Holly, John Lee Hooker, Whitney Houston, Michael Hutchence (INXS), Julio Iglesias, Mahalia Jackson, Mick Jagger, Etta James, Waylon Jennings, Billy Joel, Olivia Newton John, Tom Jones, Jon Bon Jovi, BB King, Om Kalsoum, Gladys Knight, Leadbelly, Huey Lewis, Jerry Lee Lewis, Little Richard, Vera Lynn, Phill Lynott (Thin Lizzy), Miriam Makeba, Bob Marley, Gisela May, Freddie Mercury, George Michael, Liza Minelli, Jim Morrison, Van Morrison, Paul McCartney, Youssou N'Dour, Edith Piaf, Elvis Presley, Cliff Richard, Paul Simon, Otis Redding, Brad Roberts (Crash Test Dummies), Frank Sinatra, Bessie Smith, **Bruce Springsteen, Eddie Vedder (Pearl Jam), Dionne Warwick, Muddy Waters, and** Tammy Wynette.

In general this list is made up of male **classical** singers when they sing in a loud volume.

With a light sound colour: Chuck Berry, Jack Bruce, Woodie Guthrie, Billie Holiday, Ice-T, Grace Jones, Al Jarreau, Eartha Kitt, Brenda Lee, Loretta Lynn, Bette Midler, Willie Nelson, Ozzy Osborne, Dolly Parton, Lou Reed, Axl Rose (Guns 'n' Roses), Diana Ross, Gino Vanelli, Lolly Vegas (Redbone), and Hank Williams.

In the low part of the voice: Zarah Leander, Sarah Vaughan, and some female classical singers when they sing in the low part of the voice in loud-volume (chest voice) such as Maria Callas.

Condition Ior Overdrive

Full metal (full tilt)

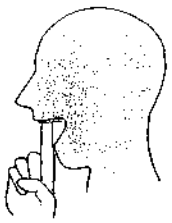
Notice tho nmnnnllnii nf Ovnnlilvo (II niimt never feol wrontj fir unrHimfuftfililn) mid Union until you hiivo Ilin piiwniliil nnil nliinilliiu iimiru). It may be liiil|iliil In |jnl miiiiinliiiiioil ID Ihn sound first and Hum hn,iin mi Ilin nnnniillnn. Wlion you have con-In il ill i hwdilvo Ihn volco will be able to find both SOIIIHI i»id tifinfiiillon on its own. After that you CUM i|ivo llm sound more or less of a shouting <:h.ii;icli.ir.

II you (Ind It difficult start with a provoking and shouting sound and when you are more familiar with it make it less shouting. Notice that when you find the exact setting for the mode, it usually costs less energy than when you are trying to locate it.

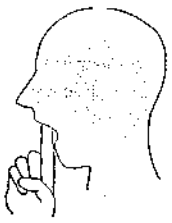
Care with the jaw in Overdrive

Be careful not to loosen the jaw or open the mouth too much as both may lower the larynx, making the voice lose the metallic sound and change to the Neutral mode. Keep the 'bite'. If you lose the 'bite', you will usually lose the mode. This may sound like a break in the voice and can hurt or damage it.

When you are able to control Overdrive the jaw can be loosened and positioned in whichever way you prefer. In the beginning, however, avoid a loose jaw.



'Bite'



Loose jaw

Pitch and Overdrive

Experienced men can sing up to their high c (c2) in Overdrive. The highest note women can sing is d2/eb2. For both men and women the higher the voice the more distinct the mode becomes, the volume becomes more powerful, the sound more distinctly shouting, and the vowels have to be altered to EH (as in stay) and OH (as in so).

A case story

An experienced heavy rock singer had an active singing period and then several years of a break. Normally his songs were pitched high and when he started singing them again he got pains in his voice.

The reason was that during his break he had losl part of his physical strength and technique. That was why Overdrive (in which he had sung before) seemed too hard and powerful. He had forgotlrn how much support energy was needed. When he did not use sufficient energy hls voice automatically choose Curblng, as this mode requires less energy in the high part of the voice. The reason why his voice hurt was because he tried to use as much volume in Curbing as he did in Overdrive, and this was. too loud for Curbing.

He had a choice between continuing to sing in Curbing and decreasing the volume or keeping the powerful volume and replacing Curbing with Overdrive. As he wanted the powerful volume he had to do physical exercises to improve his condition. In the meantime we practised Overdrive by establishing the 'bite' and altering the vowels to EH (as in stay) and OH (as in so) at the higher pitches. When he could do this he was once again able to sing his high-pitched songs widi powerful volume and his comeback was well rerieved.

There is no limit to how low you can sing in Overdrive. The sound of Overdrive in the lower part of the voice may become dry, squeaky, and slightly squeezed if you do not lower the larynx.

To avoid the squeezed sound and to get more power in the lower part of the voice sing in Overdrive while cautiously lowering the larynx.

I hi:-, way you nnn fjnl hoih **the** metal of **Overdrive** ii'. woll DlD Iho ilnrk, win in sound of tho lowered **I."/MX.**

I Ills oxfirr.lBii, liowiivnr, bnlongs to advanced KII)(|IM(| tnchnlquciR, You should bo very careful mid only procood onco you have no problems wllh Ilio Ovordrlvo mode and are familiar with the bnsli: prlnciplos of tho correct use of the voice. You HIHO noml to know your voice so well that you uin lull tho limlnnt you exceed its healthy limits.

Flrnt **Uriel** Ovordrlvo In the lower end of the middle pnrt of tho voice and practise it on f1 (for women) or d (for men). Gradually descend and feel how you have to 'lock-in' the mode the lower you sing.

When you have achieved Overdrive in the low part of the voice, sing in Overdrive on the note aO (for women) or a-1 (for men) and be careful to maintain the metallic sound while cautiously low¬ering the larynx. The more you lower the larynx (to a certain degree) the darker, richer, and more powerful the note will become. It must, of course, never feel uncomfortable or hurt. @ 18d

This combination of Overdrive and a lowered larynx should only be used in the low part of the voice.

Vowels in Overdrive

All the vowels can be used in the low part of the voice. In the higher part of the voice they must be directed towards EH (as in stay) and OH (as in so) to maintain Overdrive. On the highest notes it is no longer enough to simply 'direct' the vowels. Instead they must be altered to EH (as in stay) and OH. EE (as in see),! (as in sit), A (as in and), and AH (as in far) are altered to EH (as in stay). For example 'Hey, baby' is altered to 'HEH, bEHbEH'. U (as in you), O (as in woman), and OR (as in order) are altered to OH (as in so). For example 'I love you' is altered to 'OHi lOHve yOH'. (Si 84b

If it is difficult to get the same character with OH (as in so) as with EH (as in stay) it is usually because the position for the mode is not quite right for OH. In this case it may help to bite your lower lip gently with the upper front teeth. Keep this position while opening the mouth a little and saying OH. Notice that the tip of the tongue dives into the lower part of the mouth. Hereby the sound should acquire the same shouting character as with EH. Make sure that this does not create mus¬cular tensions in the jaw or lips.

How marked the direction/alteration of the vowels is will vary from singer to singer. An experienced singer can make more precise vowels than a less experienced singer.

At first it may be best to exaggerate the direc¬tion/alteration of the vowels towards EH (as in stay) and OH (as in so) to find the most comfort¬able position in Overdrive. When you are familiar with the exact position you can practise making the vowels less distinctly EH and OH.

Volumes in Overdrive

(funnmlly '.p«Mkiu<i < Woiduvn K , I mot In with a pOW-tilfill V(ill *it* m\ <••!> •")>) >*t) tuna* JJ >J J< J (I) ID vmy loud (ff).

Ynii i.in ·Mini t >vnnliWn ininn miloUy In thQ lowm Hi.. . . . j Hit- hl(|hni p.id (il (ho voice. The hlulini ih<> jiihii ihn ii. . . . .< loud iho volumo MMjIlliri I l< it Ihr [in "In.

• iin*|<(· . .I**- *<}tUfi<-ni .mil -.IIIDO* oro Hblo to sing In:.', liiini in ()vuiiinvi> I 'i.if i·' ,<• until you are famll-i.u with how loud nnd •|im-(ymi tiro able to sing In (Wnrdrlvo.

A raN«' Niory

A]a// singer in .\ nnnn .J li.nl pn >l ilniui with ImitnirriPHH, The doctor diii|;ni»,(•!l nodnlrs mi the vocal ctiirli which had to be removed by mirgcry.

Even *though* she was very hoarse something W;LS amiss because her voice improved while working. Thr improvement was because she succeeded in keeping «m open, throat and finding the exact positions of the modes. It tuned out that the hoarseness was not caused by wear on the voice but constrictions preventing the voice from working. When the modes were performed correctly the hoarseness disappeared. This proved there was nothing wrong with the voice, it was just jarred in by so many *constrictions* that it sounded worn.

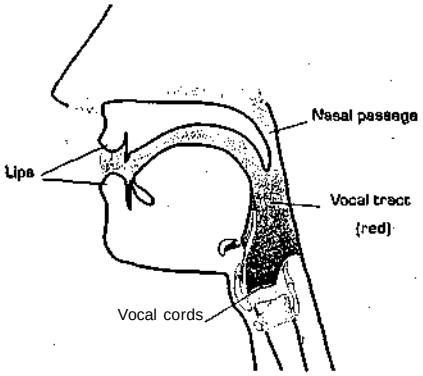
We practised efficient support while being attentive to keeping an open throat. Gradually the constrictions disappeared and the voice sounded more and more clear. After about an hour the constrictions had almost disappeared and the voice was relatively free so we worked on the modes she needed in the musical.

Her hoarseness had most probably appeared because in jazz singing she had been accustomed to almost exclusively using Neutral and had consequently used it for the musical - only in too loud a volume. We worked on establishing the 'bite' and singing in the exact position for Overdrive. Then we worked on altering the vowels so that they were directed towards EH (as in stay) and OH (as in so) in the high part of the voice. When the position for the mode was correct she got accustomed to the metallic sound, and used it when singing loudly.

She now uses Neutral for quiet passages and Overdrive for loud ones. She completed that night's per¬formance and hasn't had problems since.

Sound colours in Overdrive

When you wnnl In dminjo **th« lOUnd** OOlQUf **p(** • mode you hnvo lo ch:uujn **the MttlnQ Of Ihi VOOll** tract. The tract may bo moved In many **dlr«otlorm** so there are many ways of **changing sound colour** (see Sound Colour, page 152).



Overdrive may be coloured in different directions but most easily in the lighter direction. It is also possible to colour Overdrive in a darker and rich¬er way but this requires competence in the basic principles for singing and sufficient familiarity with your voice to know the moment you exceed its healthy limits. Be aware that the lighter you make a metallic mode the better you protect the voice against misuse.

When you can achieve Overdrive without prob¬lems experiment with sound colour by changing the size of the vocal tract. Avoid lowering the lar¬ynx TOO much because you may lose the correct position for Overdrive.

Darkest sound colour

If you want a darker sound in Overdrive increase the size of the vocal tract. Choose one or more of the following possibilities: (2| 84c(1)

- Project the epiglottis funnel
- Lower the larynx carefully (take care not to lose Overdrive and remember that the lighter a metallic mode the more secure it is)
- Raise the palate more. Be careful not to raise the palate so much that you lose Overdrive, as this may be painful and damaging
- Open the mouth more with looser corners but do not lose the 'bite' and the metallic sound
- Close the nasal passage
- Compress the tongue (this gives the vowels an opera-like sound)

Lightest sound colour

If you wish to make Overdrive lighter decrease the size of the vocal tract. Choose one or more of the following possibilities-. (SB) 84c(2)

- Twang the epiglottis funnel
- Raise the larynx
- Lower the palate but be careful to allow enough 'room' for the high notes
- Broad the tongue
- Open the mouth more as in a smile
- Open the nasal passage

When you can control Overdrive and are able to change its sound colour it is a good idea now and then to return to, and practise, the exact position for the mode. Maybe you will find this sound colour too shouting but it is important to be aware of the correct position for an exact and healthy Overdrive so as not to lose the mode while experimenting.

A case story

A professional flamenco singer suddenly experienced problems with hoarseness. He had consulted a ear, nose, and throat specialist who could not find any physical explanation for his hoarseness. I asked him to sing as he normally would and concluded that, although he sang almost exclusively in Overdrive the position was not quite correct. He wanted the dark sound colour of Overdrive but was not aware of the limited selection of vowels in this mode. Therefore his position for Overdrive had gradually become more and more slack. Finally he became hoarse.

We worked on removing the constrictions and after an hour or so the voice was back. We then estab¬ lished die 'bite' and practised an exact position for Overdrive. When the position was corrected his notes became clearer and more powerful. Then we worked on adjusting the vowels by directing them towards EH (as in stay) and OH (as in so) when he sang higher. On the highest notes he used only the vowels EH and OH and was suddenly able to sing thiee notes higher than he ever had before.

When he used the exact position for Overdrive his hoarseness disappeared. He was also able to reach higher notes and had much more power in his voice.

Overdrive in classical singing

Men can use Overdrive in classical singing. Start by practising the exact position of the mode, maintain the 'bite', and carefully project the epiglottis funnel, lower the larynx, and raise the palate without losing the 'bite'. Notice the power¬ ful, rich sound. Sing single notes.

When you have become familiar with this feel¬ ing, experiment - still on single notes - with just how large you can make the vocal tract without losing the mode. Carefully continue to project the epiglottis funnel, lower the larynx, raise the palate, open the mouth with loosened corners, compress the tongue, and close the nasal passage. Keep the 'bite' as well as the rich Overdrive character. The larger you make the vocal tract, the darker, richer, and more classical the sound becomes.

Men often use Overdrive in classical singing, usually up to a1/bb1, when the volume must be loud and penetrating. Women rarely use Overdrive in classical singing unless in the low part of the voice when the volume has to be very loud (such as Maria Callas).

Exercises in Overdrive

High nates

Practise Overdrive on single notes on the vowels EH (as in stay) and OH (as in so) and maintain the 'bite'. Start the notes with a glottal attack, later you can choose any attack you want. In order to find the correct amount of support energy, it may be helpful to give the notes a run up and then pull them up to the desired pitch. Remember that it must feel comfortable. Use the same shape of the mouth for EH and OH. Women can start from f1 and repeat the exercise begining half a note high¬ er each time up to about c2. Do not go to eb2 unless you are well-trained in Overdrive and specifically need it on this note. Men can start from d and repeat the exercise begining half a note higher each time up to c2. Make sure that there is sufficient support energy for Overdrive in the high part of the voice. @ 18a

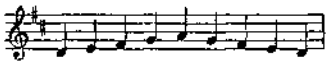
Low notes

Be sure to maintain the position for the mode and the 'bite' in the lower part of the voice. It may feel as though the lower you go you are forced to 'close together' around the notes. If you lose the full metallic character return to the previous note where you had it and try to retain the feeling for the difficult note. Practise EH (as in stay) and OH (as in so) in the beginning. When you control these vowels go on to the others, but ONLY in the low part of the voice. Women can start from f1 and repeat the exercise begining half a note lower each time. Men can start from d and repeat the exercise begining half a note lower each time. ^ 18b

Scales

When you can control Overdrive on single notes, practise scales up and down through five notes - again on the vowels EH (as in stay) and OH (as in so). Start each note with a glottal attack. Make sure you open the mouth more the higher you sing. Avoid singing higher than d2/eb2 (for women) or c2 (for men). Start from d1 (for women) and d (for men) and sing a scale up and down through five notes. Continue to repeat the exercise begining half a note higher each time, and later half a note lower each time. fS\ 18c

A fifth scale



Powerful low notes

Practise Overdrive with a lowered larynx if you want a very dark and rich sound colour in the low part of the voice.

Locate Overdrive in the lower end of the middle part of the voice by practising the mode on f1 (for women) or d (for men). Gradually descend until you are able to maintain the mode in the low part of the voice.

Sing in Overdrive on aO (for women) or a-1 (for men) and lower the larynx cautiously without los¬ ing the metallic sound. Try to make the note as dark, rich, and as powerful as possible and get used to the sound and feeling of Overdrive with a lowered larynx. It must, of course, not feel uncom¬ fortable or be painful. S) **18d**

Then practise on low notes to find the exact feeling, sound, and position of Overdrive with a lowered larynx. This combination of Overdrive and the lowered larynx should only be used in the low part of the voice.

Songs

Complete a song in Overdrive. Continue !o repeat the song begining half a note higher each time. Remember to change the vowels to EH (as in stay) and OH (as in so) in the high part of the voice and be careful not to sing so high that the mode cannot be maintained. ifSii 18e

Classical singing

Men can use Overdrive in classical singing. When you have located the classical sound sing short scales and pay attention to maintaining the sound colour throughout. Make sure you do not impair

the pitch even though the position of the larynx will be comparatively low. Keep the tongue com¬ pressed in order to give the vowels the classical sound. Then try doing longer scales.

Practise this sound colour in the high part of the voice up to about a1/bb on the vowels EH (as in stay) and OH (as in so). The higher the pitch and the darker the sound colour the louder the volume gets. Consequently you should not sing louder or darker than you are able to go through with. Also remember that the higher the pitch the more you must alter the vowels towards EH (as in stay) and OH (as in so). <& 18f

Warnings in Overdrive

When you practise Overdrive you should be increasingly careful as the pitch gets higher. Women must be aware of having sufficient sup¬ port from **d**, and must make sure that the 'bite' is correctly established to avoid losing the metallic sound or getting a break in the voice. Men should be equally cautious between g1 and c2.

- Never add air to the voice when singing in Overdrive
- Women are NOT able to sing in Overdrive above d2/eb2
- Men are NOT able to sing in Overdrive above c2
- The higher part of the voice the more distinctly the vowels must be altered towards EH (as in stay) or OH (as in so)
- The higher part of the voice the more powerful the volumes. You can harm the voice by singing too quietly in Overdrive at high pitch

Unintentional distortions in Overdrive.

When you practise Overdrive be on your guard against unintentional distortions (scratching or jar¬ ring sounds) on the notes. If an unintentional dis¬ tortion occurs it is usually because the 'bite' is not correctly established.

- Perhaps you have lost the 'bite' so the mode has changed to Neutral
- You might have a 'hold' for Curbing (see Curbing, page 91) and at the same time have been using a powerful volume. This may hurt the voice
- Maybe you have not been attentive to a con¬ striction. This might have been triggered by muscular tensions in the jaw or lips or by a lack of support. (The tensions in the jaw or lips should not be mistaken with the 'bite')
- Perhaps you are raising the palate so much that it lowers the larynx making the exact posi¬ tion for Overdrive impossible
- You may be singing at too quiet a volume for Overdrive which prevents the mode frpm work¬ ing and might wear your voice

The unintentional distortion may feel and sound pleasant but should be avoided as persistent use over a longer period of time may result in a blur¬ ring of the modes. If you want a distortion this should be practised separately (see Distortion, page 170).

Finding Belting

Once you have found the twnngod epiglottis funnel, add full metal to the sound by using more volume. Be sure not to lose tho twnnged funnel as the vol¬ume increases. It might help to make a slight con¬traction of the corners of the mouth (pull them inwards) (s™ dinuram en page 115]. Raise the larynx, broad the tongue, apply a solid amount of support, and start with a glottal attack. Sustain both the sound and intensity and sing a powerful, light, and snarling EH (as in stay). The sound should be sharp and sneering (sounding nasal) - like a duck. ^ 85a(1)

Be careful not to loose the twanging of the epiglottis funnel. If this happens the sound loses its sharpness and you will have lost Belting. It also might hurt.

At first it may help to follow these suggested posi¬tions for the vocal tract, although they are not a condition for the mode.

- raise the larynx as much as possible
- make a large mouth opening and extend the corners of the mouth as in a smile
- broad the tongue
- lower the palate
- open the nasal passage

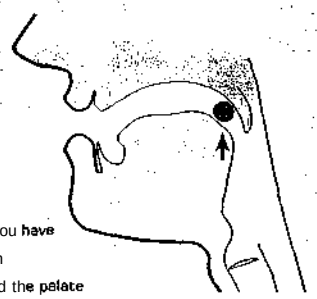
Once you have learnt to control Belting you will no longer need help from positioning the vocal tract. Skilled Belters often hold different positions .

At first you must be sure not to lower the larynx (by raising the palate, for example). If you lower the larynx during Belting you will probably lose the twanging of the epiglottis funnel and lose Belting entirely. This might hurt.

Achieving Belting through images and sensations

Remember that images and sensations are only meant as an aid. If you do not respond to them immediately, forget them. Do not confuse them with what is actually happening!

- Imagine that you have a pea between the tongue and the palate. Keep the pea as high up as possible



Imagine that you have a pea between the tongue and the palate

- When singing in Belting many feel like making more room for the powerful notes by either relaxing the twanging of the epiglottis funnel, lowering the larynx, or raising the palate. Avoid giving the notes this extra 'room' as you may lose the metallic sound. The sharp, metallic sound is best achieved if you do not give the note too much room. You must, however, take care to keep the throat open
- Imagine that you have a large amount of ener¬gy built up inside. Release the energy through a narrow crack between two iron walls that can¬not be moved

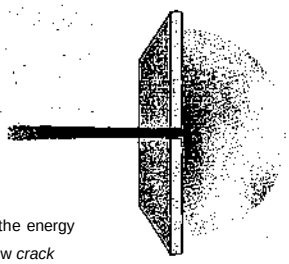


Image: Release the energy through a narrow *crack*

- Extend the corners of the mouth and 'tie them together around the neck'. Extend the upper lip and open the mouth as much as possible
- Imagine that you are pressing the corners of the mouth together and pulling them inwards. Place the tongue on the molars in the upper part of the mouth and keep this position while Belting

Imagine that you are pressing the corners of the mouth together and pulling them inwards

- Start a note with a glottal attack and continue singing with the same sound and intensity. Be sure to maintain the position for the glottal attack all through the Belt
- Say 'aiiiiiee' like when you are annoyed. Keep the position of the epiglottis funnel and tongue. Practise higher notes with this position

Achieve Belting through the position of the tongue

Making the tongue broad might help you find the twanged epiglottis funnel and so Belting. When the tongue is broad it produces a light sound colour. If you add the twang of the epiglottis funnel and loud volume the sound becomes metallic.

Feel how the tongue rests on the molars in the upper part of the mouth and arches towards the palate, as when you say 'twang'. It must be the sides of the tongue that touch the molars in the upper part of the mouth, not the tip. Feel how the space between the palate and the tongue gets smaller the more you press the tongue against the molars. The smaller the space between the palate and the tongue, the lighter and sharper the sound. This position must be maintained on all vowels in all parts of the voice. But remember when singing in the high part of the voice you do not need to keep the tongue in place for the vowels. The high notes will be easier to achieve if you open your mouth more widely and keep your tongue as you want.

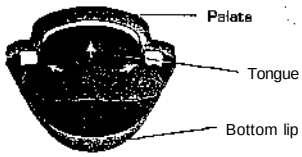
Broaden the tongue and *place its sides* on the molars in the upper part of the mouth

When the tongue is maintained in the broaded position, it facilitates the twanging of the epiglottis funnel and therefore makes Belting easier to maintain.

You can achieve Belting through the broad position of the tongue in a number of ways:

- Imagine that you are speaking like a over-tired child
- Move the tongue back and forth along the teeth in the upper part of the mouth, creating a small space between the tongue and the palate
- Press the tongue up behind the back molars in the upper part of the mouth. Relax the tip of the tongue, letting it point downwards, and, at the same time, broaden it
- Press the back of the tongue up against the inside gum of the molars in the upper part of the mouth

(upperlip and teeth removed)



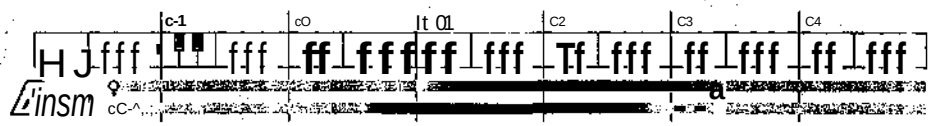
Press the hindmost part of the tongue up against the gum on the inside of the molars

- Make sure the tongue is broad and arched in the middle. The tongue should not be hollow in the middle, as this usually results in losing the twang of epiglottis funnel

Make sure the back of the tongue is hroad **and does not form a sma(t** hollow in the middle

Belting

rnuiln	*Uhmrn* FULL METALLIC
closure of the vocal cords	never add air to the voice
method	TWANG the epiglottis funnel 
vowels in the high part of the voice	EE 1 EH A OE as in:(see) (sit) (stay) (and) (herb)
pitch	all
volume	loud
character	scream



An overview

Belting, like Overdrive, is a full metallic (full tilted) mode. The character of Belting is lighter, sharper, and more screaming than Overdrive. The vocal cords are very compressed. Belting can be found by twanging the epiglottis funnel (like imitating a duck).

Belting can be used in all pitches by both men and women.

Only twanged vowels can be used in Belting, as a twanged epiglottis funnel is a condition of the mode. You must use only EE (as in see), I (as in sit), EH (as in stay), A (as in and), and OE (as in herb) especially in the high part of the voice.

The sound colour can only be altered a little. In the high part of the voice you must not alter the sound colour which is light and sharp.

The volume in Belting is mostly loud. However medium volume can be obtained in the lower part of the voice. The higher the notes the more loud and distinct the screaming character becomes. At

Finding Belting

these higher notes the distinctiveness of Belting in comparison to Neutral, Curbing, and Overdrive becomes apparent.

Belting is used in rhythmic music of many styles and mostly in the high part of the voice - when the volume is very loud and there is a great amount of metal on the notes. Examples include heavy rock, gospel and powerful soul music.

Belting is used in classical music when men sing very loudly (ff) in the high part of the voice, such as the high c of a tenor. Women do not use Belting in classical music.

Belting is used in everyday life when you scream.

Singers who often sing/sang in Belting

Sebastian Bach (Skid row), Chris Cornell (Soundgarden), Bob Dylan, Chaka Khan, Patti La Belle, Kate Pierson & Cindy Wilson (The B-52's), Styx, and Steven Tyler (Aerosmith).

Especially in the high part of the voice: Anita Baker, Shirley Bassey, Chuck Berry, James Brown, Randy Crawford, Ronnie James Dio, Celine Dion, Melissa Etheridge, Aretha Franklin, Marie Fredriksen (Roxette), Judy Garland, Woodie Guthrie, Buddy Guy, Tramaine Hawkins, Jennifer Holiday, Whitney Houston, Mahalia Jackson, Mick Jagger, Etta James, Janis Joplin, Jon Bon Jovi, 'Baby Jean' Kennedy (Mothers Finest), Cindy Lauper, Freddie Mercury, Liza Minelli, Youssou N'Dour, Dolly Parton, Percy Sledge, Barbara Streisand, Tina Turner, and Hank Williams.

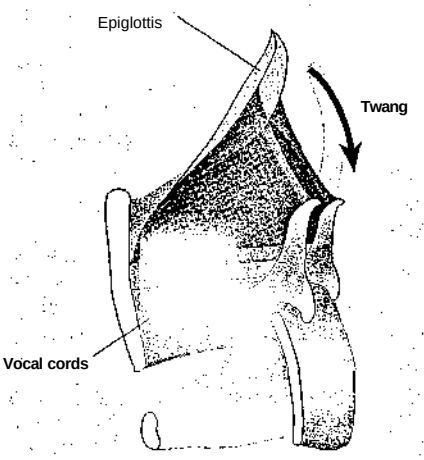
Also included are male classical singers when they sing loudly in the high part of the voice such as Placido Domingo and Luciano Pavarotti.

Condition tor Belting

- Full metal (full tilt)
- Twanged epiglottis funnel

finding the twang ol the epiglottis tunnel

To find Belting it is essential to twang the epiglot¬ tis funnel (see Epiglottis Funnel, page 154). When the opening of the epiglottis funnel is made small¬ er by bringing the epiglottis closer to the arytenoid cartilages the sound assumes a sharper and more penetrating and snarling character, similar to a cackle. This is known as a twanged sound. The more the opening is squeezed, the more snarling the sound becomes. You can increase your vol¬ ume by 10 to 15 decibel by twanging alone. ^ 75a



To find Belting it is essential to twang the epiglottis funnel

It is easiest to find the twanged epiglottis funnel by practising the following sounds:

- an infant crying
- a duck quacking
- making your voice grating and witch-like
- speaking like someone who has an evil plan
- imitating a diving aeroplane
- making the sound of driving a toy car
- imitating the sound of a very loud ambulance siren
- Say or 'Meow' (without the U-sound) like a cat

Finding Uniting

Oner.) you hnvo found II io twanged epiglottis funnel, mid full MMIIIII lo tho sound by using more volume. Uo sure nol to lose the twanged funnel as the vol¬ume increases. It might help to make a slight con¬traction of the corners of the mouth (pull them inwards) [See diagram on page us]. Raise the larynx, broad the tongue, apply a solid amount of support, and start with a glottal attack. Sustain both the sound and intensity and sing a powerful, light, and snarling EH (as in stay). The sound should be sharp and sneering (sounding nasal) - like a duck. g& 85a(1)

Be careful not to loose the twanging of the epiglottis funnel. If this happens the sound loses its sharpness and you will have lost Belting. It also might hurt.

At first it may help to follow these suggested posi¬tions for the vocal tract, although they are not a condition for the mode.

- raise the larynx as much as possible
- make a large mouth opening and extend the corners of the mouth as in a smile
- broad the tongue
- lower the palate
- open the nasal passage

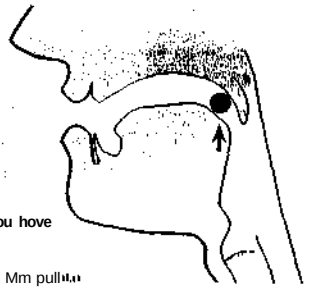
Once you have learnt to control Belting you will no longer need help from positioning the vocal tract. Skilled Belters often hold different positions .

At first you must be sure not to lower the larynx (by raising the palate, for example). If you lower the larynx during Belting you will probably lose the twanging of the epiglottis funnel and lose Belting entirely. This might hurt.

Achieving Belting through images and sensations

Remember that images and sensations are only meant as an aid. If you do not respond to them immediately, forget them. Do not confuse them with what is actually happening!

- Imagine that you have a pea between the tongue and the palate. Keep the pea as high up as possible



Imagine that you hove
a pea between
the l:onɳnn unil Mm pull

- When singing in BoUlny many feel like making more room for the powerful notes by either relaxing the twanging of the epiglottis funnel, lowering the larynx, or raising the palate. Avoid giving the notes this extra 'room' as you may lose the metallic sound. The sharp, metallic sound is best achieved if you do not give the note too much room. You must, however, take care to keep the throat open
- Imagine that you have a large amount of ener¬gy built up inside. Release the energy through a narrow crack between two iron walls that can¬not be moved

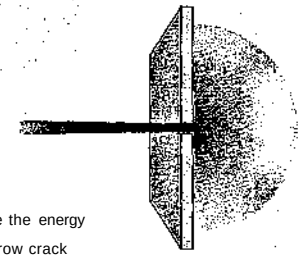


Image: Release the energy through a narrow crack

- Extend the corners of the mouth and 'tie them together around the neck'. Extend the upper lip and open the mouth as much as possible
- Imagine that you are pressing the corners of the mouth together and pulling them inwards. Place the tongue on the molars in the upper part of the mouth and keep this position while Belting

Imnjjlne that you an praaalng tha cornora of tho mouth Cogathar and pulling thnm Inwnrda

- Start a note with a glottal attack and continue singing with the same sound and intensity. Be sure to maintain the position for the glottal attack all through the Belt
- Say 'aiiiiiee' like when you are annoyed. Keep the position of the epiglottis funnel and tongue. Practise higher notes with this position

Achieve Belting through the position or the tongue

Making the tongue broad might help you find the twanged epiglottis funnel and so Belting. When the tongue is broad it produces a light sound colour. If you add the twang of the epiglottis fun¬nel and loud volume the sound becomes metallic.

Feel how the tongue rests on the molars in the upper part of the mouth and arches towards the palate, as when you say 'twang'. It must be the sides of the tongue that touch the molars in the upper part of the mouth, not the tip. Feel how the space between the palate and the tongue gets smaller the more you press the tongue against the molars. The smaller the space between the palate and the tongue, the lighter and sharper the sound. This position must be maintained on all vowels in all parts of the voice. But remember when singing in the high part of the voice you do not need to keep the tongue in place for the vowels. The high notes will be easier to achieve if you open your mouth more widely and keep your tongue as you want.

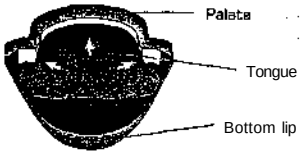
Broaden the tongue and place its sides on the molars in the upper part of the mouth

When the tongue is maintained in the broaded position, it facilitates the twanging of the epiglottis funnel and therefore makes Belting easier to maintain.

You can achieve Belting through the broad posi¬tion of the tongue in a number of ways:

- Imagine that you are speaking like a over-tired child
- Move the tongue back and forth along the teeth in the upper part of the mouth, creating a small space between the tongue and the palate
- Press the tongue up behind the back molars in the upper part of the mouth. Relax the tip of the tongue, letting it point downwards, and, at the same time, broaden it
- Press the back of the tongue up against the inside gum of the molars in the upper part of the mouth

(upperlip and teeth removed}



Press the hindmost part of the tongue up against the gum on the inside of the molars

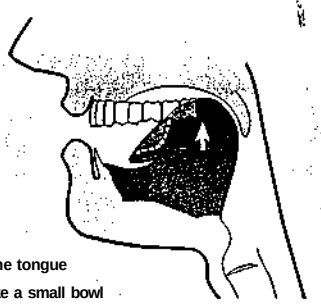
- Make sure the tongue is broad and arched in the middle. The tongue should not be hollow in the middle, as this usually results in losing the twang of epiglottis funnel

Make sure the back of the tongue is **broad and does not form a small** hollow in the middle

- Tighten the corners of the mouth and extend them into a smile. Place the tongue against the molars in the upper part of the mouth. Keep it there and broaden it

Tighten the corners of the mouth and extend them into a smile

- Say 'twang' and feel exactly where the tongue touches the molars. Keeping the tongue against the molars, say 'OE' (as in herb) and feel how the front part of the tongue forms a small bowl shape, while the middle and back are placed on the molars in the upper part of the mouth. Retain the small bowl feeling when you Belt



Feel that the outer part of the tongue shapes itself like a small bowl

- Sing a long, light note on 'GEE' and feel the high position of the back of the tongue on the consonant 'G'. Try to maintain this position on the vowel 'I (as in sit)'

Once you are familiar with the sensation of the twanged epiglottis funnel you will no longer need to broad the tongue. Skilled practitioners of Belting sometimes use tongue positions other than the broad.

Finding Belting through sound

In Belting, the sound colour is very light because the vocal tract is very small. As the epiglottis funnel is twanged more and more the sound becomes sharper, more snarling, and powerful. Remember there should be a great amount of metal in the sound.

You can try to achieve Belting by: 85a(2)

- imitating an infant crying
- imitating a duck quacking
- making your voice sound grating like a witch
- speaking like someone with an evil plan
- imitating a diving aeroplane
- making the sound of driving a toy car
- imitating the sound of an ambulance siren
- choosing words to practise on, for example singing 'meet' or 'me' with a wide open mouth.
- Saying 'Meow' (without U-sound) like a cat. Feel how the tongue moves back and forth against the molars in the upper part of the mouth. Practise this movement on each twanged vowel separately until the sound becomes as sharp and as shrill as possible. Practise the position that makes the sharpest sound on each vowel.

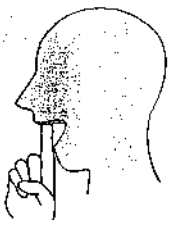
Be aware of the sensation (it should not feel wrong or uncomfortable) and practise until you acquire the powerful, sharp, screaming, shrill, and snarling sound. For some singers it is best to get accustomed to the sound first and then the feeling. Once you can control Belting the voice will find both the sound and the feeling itself. Then the sound can be made more or less screaming. Remember that Belting always has to be screaming to a certain extent.

If the mode is difficult to find start with a provoking and exaggerated sharp and shrill sound. Once you are more familiar with it the sound can be made less screaming and shrill. Notice that when you find the exact setting for the mode, it usually costs less energy than when you are trying to find it.

Be careful about the position of the jaw and epiglottis tunnel in Belting

As in Overdrive, be careful not to loosen the jaw in the beginning. If you loosen the jaw you may lose the twang of the epiglottis funnel and there¬fore lose the full metallic sound. This might sound like a break in the voice and it could be painful and damaging. Remember if you lose the twang of the epiglottis funnel, you lose the mode and it changes to Curbing or Neutral. Later, once you have perfected Belting, you can position the jaw as you choose.

If it hurts your throat to practise Belting the epiglottis funnel is not twanged enough. Maybe this is because the larynx is not raised enough. Twang the epiglottis funnel and make the tongue more broad, raise the larynx more, smile more, and use a loud volume.



'Bita'

Loose jaw

Pitch and Belting

Belting can be used by both men and women in all pitches including above the high c. Belting is especially used by women in the high part of the voice, when they cannot sing higher in Overdrive but want the volume to be as powerful. Men use Belting when they want the sharp, loud and full metallic sound.

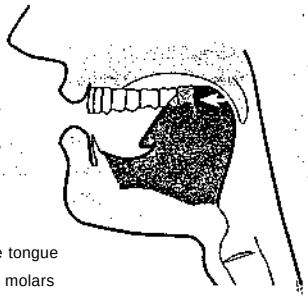
For both men and women the higher the pitch the louder the volume becomes. The sound also becomes sharper and more shrill and the vowels more twanged.

There is no limit to how low you can sing in Belting but the volume becomes weaker and the sound more jammed in and quack-like. Both Neutral and Overdrive are used more frequently than Belting in the lower part of the voice, as the sound can be made darker and less strange.

Vowels in Belting

All the vowels can be used in the lower part of the voice but the higher the pitch, the more necessary it is to direct them towards the twanged vowels EE (as in see), I (as in sit), EH (as in stay), A (as in and), and OE (as in herb) to maintain the Belting mode.

To maintain the twanged epiglottis funnel it can be help to keep the root of the tongue in a high position in Belting. With the tongue held in the correct Belting position, against the upper molars with the tip pointing downwards, you will achieve the twanged vowels.



The sides of the tongue are kept on the molars

A more experienced singer is at liberty to explore the boundaries between twanged and other vowels than a less experienced singer.

At first it will be helpful to exaggerate the twanged vowels to find the most comfortable position in Belting. When you have located it and are able to sing all the twanged vowels in a healthy manner, you can practise making the vowels less twanged.

In Belting you can use I (as in sit), EE (as in see), EH (as in stay), A (as in and), and OE (as in herb) as these help keep the epiglottis funnel twanged. 0\ 85b(1)

Sing an EE (as in see) and feel the position of the back of the tongue. Keep this position on all vowels in Belting.

All A vowels are pronounced as a flattened A (as in and) in Belting. This means AH (as in far) should be pronounced like A (as in and).

Back vowels like, U (as in you), O (as in woman), OR (as in order), and OH (as in so) present a problem as they lower the back of the tongue and the larynx and hinder the twanging of the epiglottis funnel. It is helpful to alter these vowels to sound similar to an OE. U (as in you) is modified to sound like UE. O (as in woman) to OE. OR (as in order) to OER. And OH (as in. so) to OEH. It may take time getting accustomed to the sound of the new vowels, so practise each separately until they are perfected. (<a 85b(2)

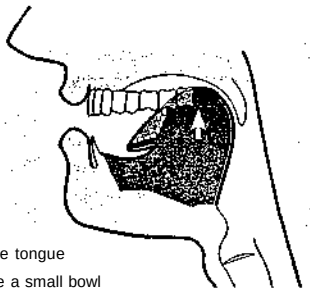
If a vowel presents a problem start by replacing it with the vowel you find easy, like I (as in sit) for example. Once you can control the easy vowel keep the back of the tongue in the EXACT same position and learn the difficult vowels.

Having practised the Belting vowels, you must also practise consonants in Belting. Find the position of the tongue in Belting and sing the vowel I (as in sit). Twang the epiglottis funnel and notice the tongue is positioned high up, so the sides of the tongue touch the molars in the upper part of the mouth. Keep this tongue position, keep the mouth open, and try changing between L and N only by moving the tip of the tongue. Practise all consonants this way.

Finding vowels in Belting through images and sensations

Remember that images and sensations are only meant as an aid . If you do not respond to them immediately, forget them. Do not confuse them with what is actually happening!

- Form the thumb and forefinger as a ring around the mouth and make a pout inside the ring as if you wish to call someone. Say OE (as in herb) and feel how the back of the tongue touches the molars in the upper part of the mouth and how the front of the tongue forms the shape of a small bowl. Keep the tongue in this position on all the vowels



Feel that the outer part of the tongue shapes itself like a small bowl

- Keep the mouth and back of the tongue in EXACTLY the same position on all vowels in the high as well as the low part of the voice until the Belting vowels are perfected
- Aim at making the same vowel sound in the high as well as the low part of the voice, for each vowel
- Feel how when you form consonants the lips often move forwards and the tongue backwards in order to keep Belting
- Do not alter the position of the tongue during inhalation. It might help to keep the tongue in the Belting position while singing and inhaling

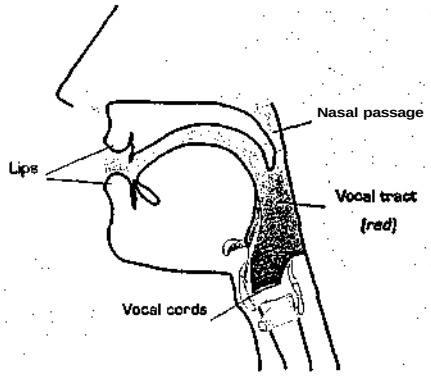
Volumes in Belting

Belting is a mode with a powerful volume. The most quiet volume attainable is medium loud (mf) and can only be obtained in the lower part of the voice. The volume is louder in the higher part of the voice.

Singers are different and some are able to sing less powerfully in Belting than others. Practise until you are familiar with your limits, how power¬ fully and how quietly you can sing.

Sound colours in Belting

When you want to change the sound colour of a mode, you have to change the setting of the vocal tract. The tract may be moved in many directions, so there are many ways of changing the sound colour of your voice (see Sound Colour, page 152).



The sound colour in Belting is generally light and shrill but can be coloured in other directions. It is not difficult to produce a lighter sound colour but if you want a darker or softer sound, you need to have impeccable control of the three basic princi¬ples. You also need to know your voice so well that you are aware the instant you exceed its healthy limits. It is important to realise that the lighter you make a metallic mode, the better you secure yourself against misusing the voice. You should ONLY try to alter the sound colour of Belting, if you can control the mode without prob¬lems.

Only once you control Belting without problems can you experiment with changing sound colour - but even then only by a little. You do this by changing the setting of the vocal tract but remem¬ber there may be problems in darkening the sound colour. The darker the sound colour the greater the risk of losing the metallic sound. Remember to keep the twang of the epiglottis fun¬nel which is fundamental to the Belting sound.

Lightest sound colour

If you wish to make Belting lighter, you must decrease the size of the vocal tract. Choose one or more of the following possibilities g 85c(1)

- twang the epiglottis funnel more
- raise the larynx more
- lower the palate more
- open the mouth into a wider smile
- broad the tongue more
- open the nasal passage more

Less light sound colour

If you wish to create a softer or darker Belting sound you can SLIGHTLY increase the size of the vocal tract. Choose one or more of the following possibilities g 85c(2)

- twang the epiglottis funnel a LITTLE less. Be very careful with this. Remember that the twanged epiglottis funnel is a condition of Belting
- if you are very experienced, you can try to lower the larynx slightly. Again, take care not to loose the twang of the epiglottis funnel. The lighter the Belting the safer the mode
- if you are very experienced, you can try to raise the palate slightly. Take care not to raise the palate so much that you loose the twang of the epiglottis funnel as this might be painful and damaging
- open the mouth a bit more with the corners of the mouth loose. Take care not to loose the twang of the epiglottis funnel
- compress the tongue. This may to a greater or lesser degree give the vowels an opera-like sound colour. Again, take care not to loose the twang of the epiglottis funnel
- close the nasal passage

Even if you become an experienced Belter and are able to change the sound colour a little, it is a good idea to return to, and practise, the exact set¬ting for the mode Belting. It may sound too shrill but, on the other hand, it is important to feel exact¬ly where the perfect and healthy position is, so

you do not lose the mode while you are experi¬ menting with sound colour.

A case story

A rocksinger had problems with high notes. She had taken many singing lessons but felt she was not improv¬ ing and was fed up with exercises.

I asked her to sing as she did on stage and then show me the exercises she was doing. When she did her exercises she worked correctly in Neutral but when she sang as she did on stage, she was mainly in Belting. So her exercises did not have any effect on her singing. If you want to develop your singing in Belting, you natu¬ rally have to practise in Belting,.

When we practised the exact setting for Belting I found her epiglottis funnel was not sufficiently twanged which was why she had difficulties reaching high notes. When she achieved the correct position for Belting in the exercises, we transferred the technique to the songs. We then had to address the vowels that she faced difficulties with. These vowels were directed more towards EE (as in see), I (as in sit), EH (as in stay), A (as in and), and OE (as in herb) when she was in the higher part of her voice and then completely replaced at the highest extremes. Once she controlled the cor¬ rect position for Belting and used the correct vowel she no longer had problems with the high notes.

Belting in classical singing

Men can use Betting in classical singing but it is technically complicated and difficult. You should only experiment with this if you are accustomed to singing classically, are fully in *control* of Belting, and know the basic principles for the correct use of the voice. You also have to know your voice so well that you are aware the instant you exceeds its healthy limits.

Start by practising the exact position of Belting. Listen to the powerful, sharp, and full metallic character. Now CAREFULLY try to raise the palate, relax the corners of the mouth with it open, compress the tongue, and close the nasal pas¬ sage - without losing the twang of the epiglottis funnel. Sing single notes in a comfortable pitch and gradually sing higher.

When you have become familiar with this, experiment - still on single notes - with just how large you can make the size of the vocal tract by lowering the \a*rynx* without changing the sharp and metallic sound. The larger you make the vocal tract the darker and richer and more classi¬ cal the sound colour becomes.

Men use Belting in classical singing *from around* a1/bb1 and upwards when the volume must be very loud and penetrating (for example Luciano Pavarotti and Placido Domingo).

Women do not use Belting in classical singing.

A case story

The leading tenor at a major opera developed an acute problem where his voice started breaking at the high c. He had always felt his high c was unstable because he never knew if he would be able to keep ft or if the voice would break. But now, as he feared would happen, the voice was breaking all the time. He was feeling desper¬ ate because he was to sing that night and the more he practised the worse it became.

As it turned out he - like many opera singers - had been taught to keep the larynx as low as possible. The more he did this the more he impaired the high notes.

Initially we worked on gradually raising the lar¬ ynx, as he sung higher notes to avoid impairing the pitch. Already at this point the voice became more sta¬ ble, and he was able to reach the note on practically all vowels - even in *the* quiet volumes. To achieve power¬ ful volumes on high notes we worked in Belting by twanging the epiglottis funnel until he learned the full metallic feeling and sound. After a short while he was able to sing in the exact position of Belting on all notes in the high part of the voice, exclusively using the vow¬ els EE (as in see), I (as in sit), EH (as in stay), A (as in and), and OE (as in herb). The high notes were no longer shaky and he could even attain very loud vol¬ umes. After this we worked on making the Belting

sound more classical by attempting to darken the sound colour by slightly lowering the larynx, raising the palate and closing the nasal passage.

We also experimented with darkening the sound *colour so* much that his voice started to wobble. We did this so that he became aware of the sensation and would know what to do if this happened during the performance. Whenever he felt that the high notes were about to fail, he was able to stabilise them by returning to the exact position of Belting. When he was in full control it was no longer difficult for him to keep the high notes - he could even obtain a louder volume than before and knew exactly what he should do to avoid the break in the voice. He completed that night's performance without problems.

Exercises in Belting

Find Belting

Begin with an exercise for maintaining the twang of the epiglottis funnel. Twang the funnel and sing 'ng' as in 'gong', and then sing 'n-geee' Make the two sounds as close to each other as possible. Hold your nose to feel whether the note passes through the nose or the mouth ('ng' sticks in the nose, but 'n-geee' should pass through the mouth). Change between the two sounds but keep the tongue positioned high up - in other words in almost the same position for both sounds. 19a

It may be easier to start Belting with an accentu¬ ated legato - giving a small run up to the note. You can start on the note from below - beginning at a lower pitch and gradually pulling up to the desired note. This way you get a little more time to estab¬ lish support and you do not risk starting with insuf¬ ficient support.

High notes

Practise Belting single notes on the vowel you find the easiest - usually E (as in sit) or A (as in and). Start each note with a glottal attack, later you can choose any attack you want. Twang the epiglottis funnel and broaden tongue, raise the larynx, and be careful not to raise the palate. Start with a very sneering sound (very metallic) and keep it while you repeat the exercise begining half a note high¬ er each time. Remember that it must feel comfort¬ able.

After this practice turning the sneering, sharp sound into a vowel. Be careful that the sound does not change character. The sneering metal in the sound must not decrease. Women can start from g1 and men from d and from there repeat the exercise begining half a note higher each time. Do not sing higher up than it feels comfort¬ able. It is better to practise Belting in a lower part of the voice where it is easier to learn the mode, 19b

Vowels

When you can manage Belting on the easiest vowel apply the same method to the other vowels. Maintain the twang of the epiglottis funnel and use the exact same position of the mouth and tongue as on the easy vowel. Practise EE (as in see), I (as in sit), EH (as in stay), A (as in and), and OE (as in herb) separately, ^g 19c

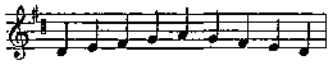
Low notes

Then practise Belting on lower notes. Be careful to maintain the twanged epiglottis funnel in the lower part of the voice. It might feel as if you have to 'close together' around the notes the lower you sing in Belting. Accept that the sound becomes more grating and cackling, in the lower part of the voice. If you lose the metal on a note, return to the previous note where you had it and try to maintain the same sensation for the difficult note. Women can start from g1 and men from d, and from there repeat the exercise begining half a note lower each time. <Si 19d

Scales

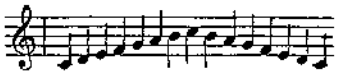
When you can Belt on single notes, practise scales up and down through five notes, again on the vowel you find easiest. Start each note with a glottal attack. Make sure the mouth opens wider as the notes move higher up. Do not try to sing too quietly in Belting, as this might harm the voice, especially in the high part of the voice, where the volume becomes louder. Women can start from d1 and men from d and from there sing up and down through five notes. Then repeat the exercise begining half a note higher each time. Finally repeat the exercise begining half a note lower each time, g) 19e

A fifth scale

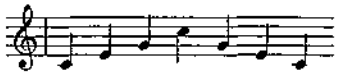


When you have perfected the five notes expand the exercises to include octave scales and triads.

An octave scale



Triad



Songs

Complete a song in Belting. Continue to repeat the exercise begining half a note higher each time. Remember to direct the vowels towards EE (as in see), I (as in sit), EH (as in stay), A (as in and) and OE (as in herb) at higher pitches, g) 19f

Many singers are unaccustomed to the sound of Belting. Remember that is all right for it to sound ugly during practice. Belting is penetrating and shrill.

Classical singing

Only men use Belting in classical singing. When you have located the classical sound you want try to maintain the sound alt the way up and down the pitches. Make sure you never lose the twang of the epiglottis funnel, and never lower the larynx so much that it impairs the pitch. Keep the tongue compressed in order to maintain the classical sound. Be ready to adjust the position of the lar¬ ynx, the corners of the mouth, the palate, the nasal passage, and the tongue if the mode should start to fail.

Practise maintaining the sound, practise the high part of the voice. Use various Belting vowels. Remember the higher the pitch the more the vow¬ els have to be directed towards EE (as in see), I (as in sit), EH (as in stay), A (as in and), and OE (as in herb) and the louder the volume will become. @ 19g

Warnings in Belting

- Never add air to the voice in the Belting
- Avoid losing the twang of the epiglottis funnel
- Avoid raising the palate or lowering the back of the tongue, as this may loosen the twang of the epiglottis funnel (this does not include male classical singers)
- The higher the pitch the more careful you have to be to apply sufficient support to avoid a break in the voice
- The higher the pitch the more distinctly the vowels must be directed towards EE (as in see), I (as in sit), EH (as in stay), A (as in and), and OE (as in herb)
- The higher the pitch the more powerful the volume becomes. It can damage the voice to sing Belting too quietly
- Avoid too dark a sound colour as this might be painful and damaging to the voice
- Avoid using excessive amounts of energy for Belting. The exact position Belting does not necessarily cost more energy than other modes. If you think Belting takes a lot of energy, maybe you are wasting energy by supporting a tension, that is counteracting the mode. Instead, concentrate on maintaining the twang of the epiglottis funnel

Unintentional distortions In Belting

When you practise Belting you have to be on **your** guard against an unintentional distortion - scratching or jarring. If there is an unintentional distortion, it is usually because the full metallic sound is not established correctly because the epiglottis funnel is not sufficiently twanged.

- You might not have been aware of a constriction developing. This could be triggered by muscular tensions in the jaw or lips or by a lack of support
- Perhaps you are losing the twang of the epiglottis funnel causing the voice to change to Neutral
- Perhaps you have a 'hold' as for Curbing (see Curbing, page 91) and at the same time are using Belting's powerful volume
- Perhaps you are singing too quietly for Belting
- Perhaps you are lowering the larynx too much

The unintentional distortion might feel both comfortable and sound fine but should be avoided. Persistent use may lead to a blurring of the modes. If you specifically want a distortion, it should be practised separately to avoid wearing the voice (see Distortion, page 170).

Summarising the modes

The diagram on the next page is an overview of the positions and characteristics of the modes. In my experience, 95% of all technical vocal prob¬lems can be avoided by using the modes correct¬ly and by understanding and respecting their advantages and limitations. Remember the three basic principles of singing are the foundations for their correct use.

A case story

A rocksinger who had recorded many albums had problems with being out of tune during the recording of his last album. As it happened, he had had a long break from singing and had not kept it in shape which meant his technique was not as good as before. To be told that you are out of tune puts enormous psycho¬logical strain on most singers and during the recording sessions he became insecure and started to make changes to his otherwise good technique.

We only had to work on a few minor bad habits. We boosted the amount of support required for the various modes, and directed or changed the vowels as is required for the higher pitches - towards O (as in woman) and I (as in sit) in Curbing - to EH (as in stay) or OH (as in so) in Overdrive - and to EE (as in see), I (as in sit), A (as in and), EH (as in stay) or OE (as in herb) in Belting. When the modes were correcdy estab¬lished he returned to being in tune and could continue recording. With this overwiev of the techniques he recorded the rest of the songs very quickly and the record was a huge success.

A case story

A young gospel singer was becoming hoarse. It turned out that she had forgotten to apply the three basic principles of singing. When she sang she forced her voice by releasing large amounts of air and this can be very damaging, especially in Curbing, Overdrive, and Belting. It was fortunate that she sought help so quick¬ly because she was close to seriously damaging her voice.

We started retraining the support and establishing an open throat. After that we worked on removing ten-sionsin the jaw that had arisen because of the lack of support. She had developed a tendency to make her lower jaw protrude. Once the support was established it was not difficult to get rid of her tension in the jaw by holding a finger between the jaws (see Throat, page 45). As she complied with the three basic principles, the surplus air on the voice disappeared and it became non-breathy and powerful again. Finally, we practised the exact positions for the modes and after a few weeks' work she no longer became hoarse when singing.

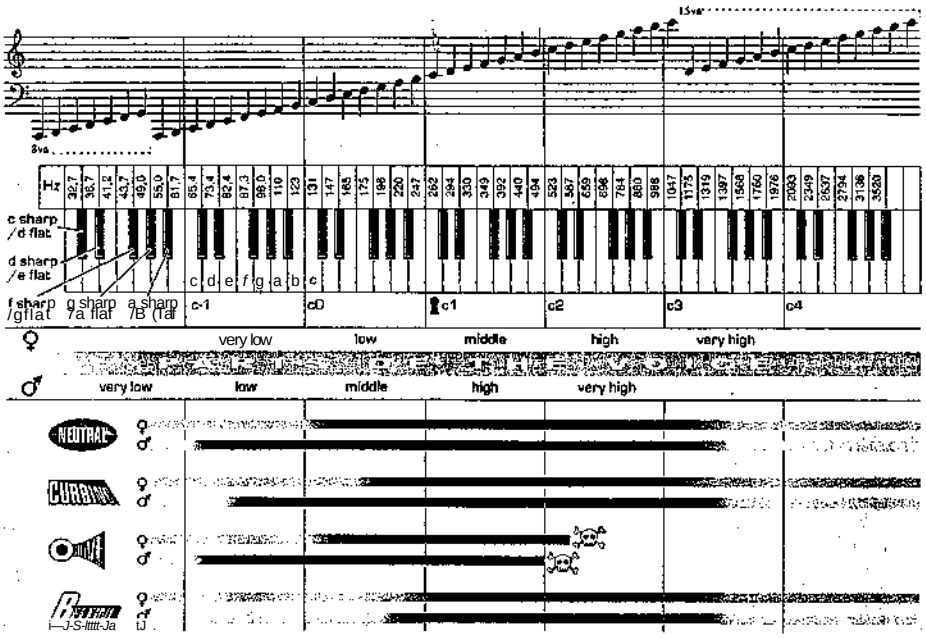
A case story

A reggae band was very close to getting a big record deal but the record company wanted the band without the singer. The band asked the record company if they could send a new demo in 14 days to give them time to improve the singing. The record company accepted even though they said the band was waisting its time as it would be easier to find another singer.

Luckily the singer was in good physical shape so when we started working on support and the three basic principles he rapidly benefited from his strength. When the support and the three basic principles were corrected we worked on the modes and changing between them. Then we trained the modes to such an extent that he easily could decide which mode suited the various parts of the songs. The singer had a great sense of style and was very musical so with the new technique he turned into a fantastic singer.

On the last day of the 14 days he recorded all the songs after singing for a straight 19 hours. The record company returned with the contract and the message: "We are signing you - glad you found a new singer".

mode	NEUTRAL	CURBING	DRIVE	BELTING
	MOIM METALLIC	HALF METALLIC	FULL METALLIC	FULL METALLIC
closure of the vocal cords	NEUTRAL soft breathy / NEUTRAL compressed ^breathy	never add air to the voice	never add air to the voice	never add air to the voice
method	loose jaw	HOLD	'BITE'	TWANG Epiglottis funnel
vowels in the high part of the voice	all	O I as in: (woman) (sit)	EH OH as in: (stay) (so)	EE I EH A OE as in:(see) (sit) (stay) (and) (herb)
pitch	all	all	♀ max d2 ♂ max c2	all
volume	quiet can be loud in the high part of the voice	medium	loud	loud
character	soft	restrained	shout	scream



Using the modes

Different angles, nothing new

In the following four chapters I will examine the modes from different angles. Instead of looking at them individually I shall consider them in terms of pitch, sound colour, volume, and vowels. These chapters, therefore, do not contain new information but present what you already know from a different perspective.

Pitch and the modes

This chapter takes the pitch of a song as a starting point and examines which modes are the most practical.

Low part of the voice

Below d for women and cO for men. If you sing in the low part of your voice you can choose from all the modes.

Middle part of the voice

Between d - c2 for women and cO - d for men. If you sing in the middle part of your voice you can choose from al! the modes.

High part of the voice

Between c2 and c3 for women and between **d** and c2 for men. If you sing in the high part of your voice you can choose from all the modes. Women, however, can only use Overdrive to d2/eb2.

Very high part of the voice

Above c3 for women and c2 for men. If you sing in the very high part of your voice you can choose from Neutral, Curing and Belting. Overdrive cannot be used in this part of the voice.

Both sexes can use soft closure Neutral, but it is difficult and potentially harmful.

In general, the very high part of the voice is only used for short passages usually as an effect. Long passages are rare.

A case story

A soul singer with an enormous voice had great power and richness in the lower parts of her voice but only thin and delicate tones in the higher parts. It was difficult for her to sing because she was unable to match these 'two voices'. For years teachers had told her not to use such powerful and rich sounds in the low part of her voice and to practise with quieter volumes and less energy. They claimed this would 'equalise the registers', or 'pull down the frail top into the lower parts of the voice', or 'make her voice slimmer'. They also claimed that using such powerful sounds in the low part of her voice was preventing her from reaching the higher parts of her voice.

I felt her problems were due to incorrect use of the modes rather than having to 'equalising registers'. It turned out she sang in Overdrive in the lower part of the voice and in Neutral in the high part. However, in the higher part of the voice she did not support adequately as she was afraid of using too much energy. We worked on isolating support, making it independent of pitch and volume. I also thought she did not need to make her voice slim by pulling down the upper part but to liberate her large voice. Instead of limiting her voice, we worked in powerful volumes, taking advantage of the considerable physical strength and the large voice she had.

Once she could provide support on both high and low notes, as well as quiet and loud ones, she was ready to work with Belting. She located Belting by twanging

the epiglottis funnel, using a light sound colour on the vowel I (as in sit), large amounts of support, and a pow¬ erful volume. Once she could control the exact posi¬ tion she was able to perform Belting to the high c. Now she had the powerful and rich .sound all the way *through her* voice.

We could have stopped there but she wanted more - to sing quietly in the low part of her voice. We prac¬ tised Neutral, especially establishing the loose jaw and singing quietly with added air and a large amount of support. Once she had whispered several songs she became accustomed to how much support she needed to remain in Neutral. Then we practised changing between Belting and Neutral.

Finally we practised Curbing so that she had a mode between the powerful (Overdrive and Belting) and the quiet (Neutral). Within three months she had solved her technical problems and had obtained an enormous choice of sound colours and volumes. Now as well as being an outstanding singer, she has became a very skilled teacher.

Sound colours and the modes

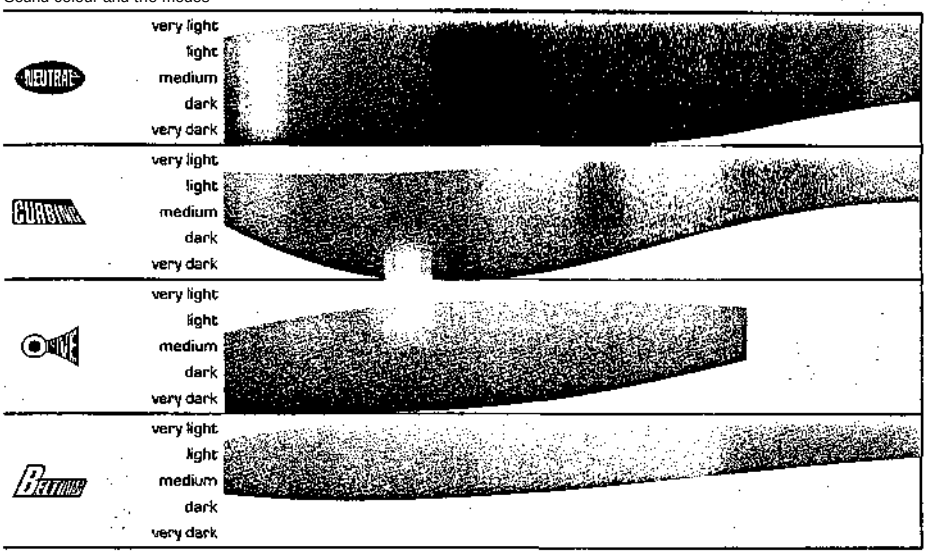
In the diagram on the next page you can see that in terms of sound colour the metallic modes (Curbing, Overdrive, and Belting) are far more lim¬ ited than non-metallic Neutral. Darker sound colours are possible in Overdrive and Curbing, while Belting gives lighter sound colours. This dia¬ gram also shows that the higher the pitch the lighter the sound colours obtainable. The lower the pitch the darker the sound colours possible. If, for example, you want a very dark sound colour in the low part of the voice you can choose between compressed Neutral and Overdrive. If you want a very light sound colour in the middle part of the voice you can choose between Neutral and Belting. But if you want a dark sound colour in the high part of the voice you can only choose Neutral.

Warning

It is important to remember that the darker you colour a metallic mode (Curbing, Overdrive, or Belting) the larger the risk of voice breaks and damage. Usually it is safer to colour in a lighter direction.

If you want the sound of Belting but not the vol¬ ume you can choose Curbing. If you want it even quieter choose Metal-like Neutral (see Transitions between the modes, page 135).

Sound colour and the modes



The modes in classical singing

In the diagram below you can see the modes used in classical singing up through the various parts of the voice for men and women.

For example, if a female classical singer wish¬ es to sing very loudly (ff) in the middle part of the voice she will usually choose Curbing. If a male classical singer wishes to sing very loudly (ff) in the middle part of the voice he will usually choose Overdrive. If he wishes to sing very loudly (ff) at the high c he will probably choose Belting.

The modes in classical singing

	loud			
	medium		{B9k	
	quiet			
	loud			
CT	medium	•&		(S&.
	quiet			
	pitch	very low/low	middle	high/very high

Volumes and the modes

It is important to know the advantages and limita¬tions of the modes at different volumes. The dia¬grams below charts modes, pitch and volume. The more metallic a mode the more powerful the volumes that can be obtained. Conversely the less metallic the mode the more quiet the volumes that can be obtained.

If you want to sing very quietly (pp) you must choose Neutral. If you want more powerful vol¬umes you must move towards Overdrive and Belting.

In general, the higher the pitch the more pow¬erful the volume attainable. Compressed Neutral, Curbing, Overdrive, and Belting can therefore be sung more powerfully in the high part of the voice than in the low part.

Powerful volume

Law part of the voice

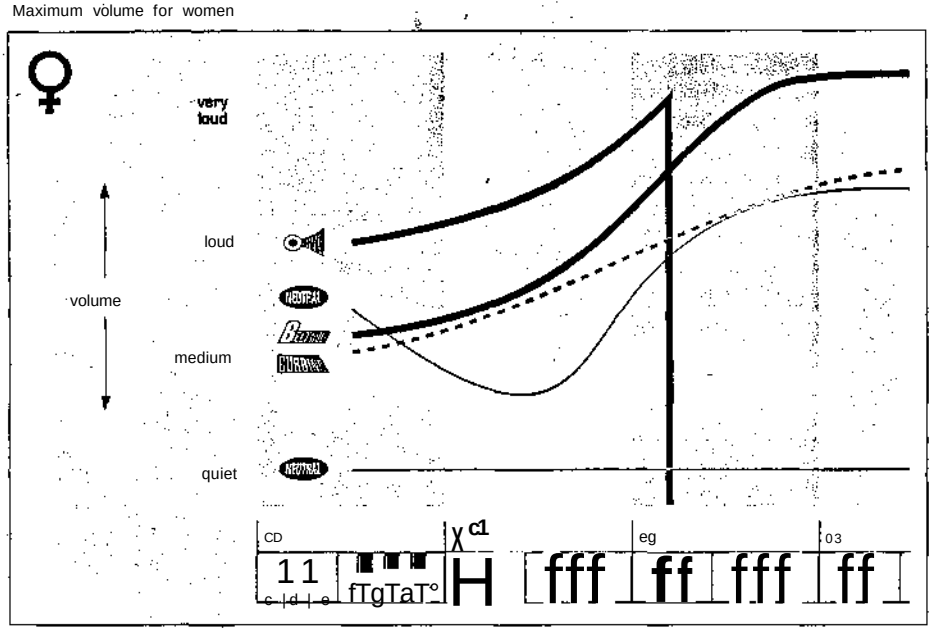
For a powerful volume compressed Neutral and Overdrive are best. Compressed Neutral gives **a** softer character than Overdrive. .

You can obtain very rich, dark, and powerful sounds in this low part of the voice by singing in Overdrive with a lowered larynx. This usually requires practise.

Middle part ol the voice

For a powerful volume Curbing, Overdrive, and Belting are best. Overdrive is most commonly used as you can get a powerful, metallic charac¬ter. Belting is mostly used in the higher part of this area, as the sound colour gets less jammed in. Female classical singers often use Curbing when singing powerfully in the middle part of the voice.

Maximum volume for women



High part of the voice

For women wanting a powerful volume all modes can be used. Overdrive, however, only up to d2/eb2. Compressed Neutral is often used when the character needs to be rounder and softer. Curbing is used when the sound needs to be a restrained metallic. Overdrive is used when you want a very powerful shouting and provoking character. Belting is used when you want a very powerful, sharp metallic character.

Men wanting a powerful volume mostly use Overdrive. Belting is used when a sharper and lighter sound is wanted.

Very high part of the voice

For a powerful volume, women can use compressed Neutral or Belting, depending on what type of sound you want. In compressed Neutral, the sound colour is rounder than in Belting. You can obtain powerful volumes in both modes.

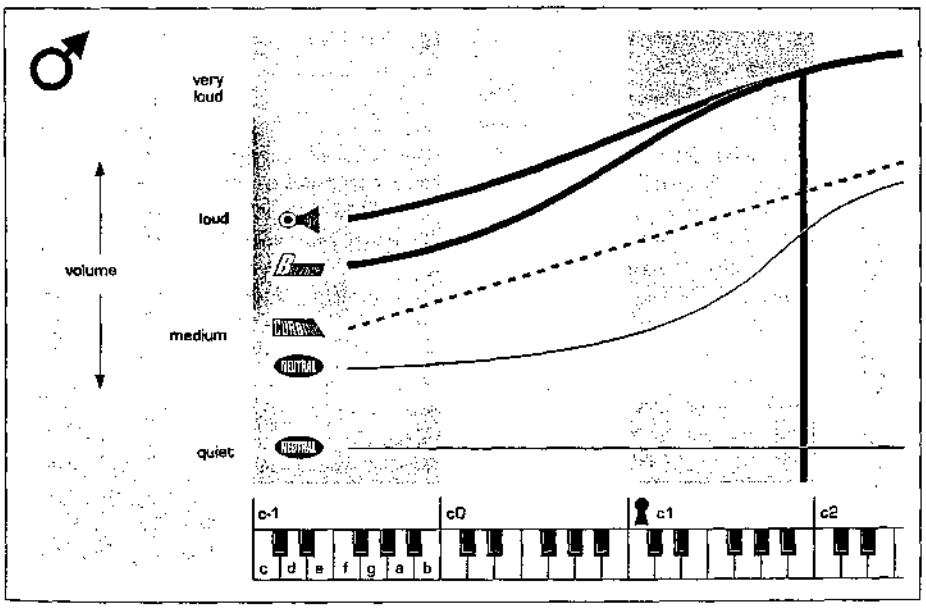
Men can use compressed Neutral or Belting as described above but can also use Curbing if they want a restrained metallic character.

A case story

A singer in a musical was hoarse and could **not** sing loudly enough. It turned out he used Curbing because in this mode you can use all the vowels and it does not require as much energy to sing in the high part of the voice as Overdrive and Belting. The problems, however, occurred because he tried to sing loudly in Curbing - and that can damage the voice. That was why he became hoarse.

We worked on Overdrive by establishing the 'bite' and practising support until he had enough energy for the powerful volume required for the mode. Once he controlled the exact position for Overdrive, we directed the vowels towards EH (as in stay) and OH (as in so) in the higher part of the voice. By replacing Curbing with Overdrive in powerful passages, the singer achieved powerful volumes and avoided becoming hoarse. In medium quiet passages he could still use Curbing. In this way he not only got rid of his hoarseness but also achieved a larger dynamic range which is now **reputed** in the world of musicals.

Maximum volume for men



Medium volume

Low part at the voice

For a medium volume you can use all the modes except for soft closure Neutral.

Compressed Neutral will have a non-breathy sound that can be coloured In all directions. Curbing will have a restrained, plaintive character. Overdrive will have a rich metallic sound. Belting will have a squeezed in and snarling, metallic sound.

Middle part ol the voice

For a medium volume you can use all modes except for soft closure Neutral.

Compressed Neutral will have a non-breathy sound that can be coloured in all directions. Curbing will have a more metallic character. Overdrive will have a rich, full metallic character. Belting will have a sharp and snarling full metallic character. While men often use Overdrive here, women can only achieve medium volume in the lower end of the middle part of the voice. In gen¬eral, the higher you sing in Overdrive the more powerful the volume becomes. How far up you are able to sing in Overdrive at a medium volume is individual.

High part ol the voice

For medium volume compressed Neutral and Curbing are best. Compressed Neutral will have a rounder, softer, non-metallic sound and Curbing will have a more metallic sound.

Very high part ol the voice

In the very high part of the voice compressed Neutral and Curbing can be used. In compressed Neutral the sound will be softer and less metallic than in Curbing.

Quiet volume

Low part of the voice

For quiet volumes Neutral (compressed and soft closure) and Curbing are best. Soft closure Neutral is used if you want to combine **a** quiet vol¬ume with added air and often in connection with microphone sphere 1 (see Microphone Technique, page 166). Curbing will have a squeezed in, plaintive half metallic character.

Middle and the high part ol the voice

For quiet volumes compressed Neutral and soft closure Neutral are best. Compressed Neutral will have a non-breathy and quiet sound, while soft closure Neutral is used if you want to combine the quiet sound with added air.

Very high part ol the voice

For quiet volume you must use compressed Neutral as it is very difficult to sing in soft closure Neutral in this part of the voice.

A case story

A rocksinger with a tremendous voice had problems with singing quietly (p). It turned out she sang exclu¬sively in full metallic modes (Overdrive and Belting). It is unusual to meet singers who rarely use Curbing and Neutral. The singer was tired of singing at full power so we worked on the Neutral mode. We started by adding air to the voice because with breathy notes there is no way the sound can become metallic. As she was unaccustomed to this feeling and sound, we prac¬tised such quiet volumes that she was almost whisper¬ing. After whispering her way through a couple of songs, she got used to the new volume and we moved on to a number of songs with sound ranging from a barely audible whisper to a medium quiet Neutral. Even though we worked at quiet volumes she still had to apply a lot of physical energy and she became aware of the large amount of support required for quiet vol¬umes.

Once she gained control over Neutral and the vol¬umes attainable, we went on to practise Curbing by using the 'hold' and directing the vowels towards I (as in sit) and O (as in woman) in the higher part of the voice. When she managed Curbing we worked on medium volumes in this mode. For some time we worked exclusively on Neutral and Curbing. Finally, we worked on the full metallic modes. By being able to change between the modes she was able to achieve enormous differences in volume and a great range of sound colours.

Vowels and the modes

To obtain certain modes in particular parts of the voice you have to alter the vowels. It is important to know which vowels facilitate which modes and which vowels impair them.

It is possible to decide which modes are most practical to use if you try to accommodate vowels, volumes, and pitches in a song. The more metal¬lic the mode the more limited the range of vowels and the more modifications you have to make as you go up in pitch.

You may think modifying vowels makes the words sound strange but listeners are already accus¬tomed to these changes, usually unknowingly. In fact, the only time they notice is if *they* study the words intently and compare them to the vowels used in speaking. From the singer's perspective once the position of the mode is perfected the modifications to the vowels sounds seem natural and actually make the text more distinct. Trying to stick to the vowels as they sound in speech works against the position of **the** mode, compromises the overall sound, and can be damaging to the voice. This is especially true in the high part of the voice where vowels can not just be modified but have to be replaced entirely.

All vowels

If you have to pronounce text as though it is speech you are limited to the lower part of your voice where all vowels are possible in all modes. If you want to sing in a higher part of the voice with these speech-like vowels you are restricted to soft closure Neutral. A merging of the vowels is inevitable in the higher part of the voice, even in soft closure Neutral (see Change of vowels up through the voice, page 52).

Directing towards I and 0

If you want a metallic sound in the high part of the voice with relatively precise vowel sounds, use Curbing (half metallic). All the vowels can be used in Curbing but they should be directed towards I (as in sit) and O (as in woman) in the higher part of **tha** voice. The higher the voice the more nec-O39ary this directing becomes.

Limited selection ol vowels

In Overdrive and Belting altering the vowels is an integral part of controlling the modes. For Overdrive in the high part of the voice change the vowels to EH (as in stay) and OH (as in so). For Belting in the high part of the voice change the vowels to the twanged vowels, EE (as in see), I (as in sit), EH, A (as in and), and OE (as in herb).

Classical vowels

Compressing the tongue gives a classical pro¬nunciation, regardless of the mode. If you do not want a classical sound do not compress the tongue. @ 87

A case story

A well-trained opera singer wanted to perform in musi¬cals but, although he auditioned for many, he was never hired. The criticism was that he sounded 'too much like an opera singer' to be in a musical.

Even though he sang in various modes, he always used the compressed the tongue and so the vowels had the same classical sound. We practised many positions for the tongue and completed whole songs with each different position and sound. Once he realised the importance of the tongue he acquíred many different sound colours and ways of pronouncing vowels, and was able to choose between them.

From then on in auditions he never used a com¬pressed tongue unless the theatre specifically asked for a classical sound colour. Now that he could change the vowels so they were more natural and less classical, he got the parts in musicals.

Vowels, volume and the modes

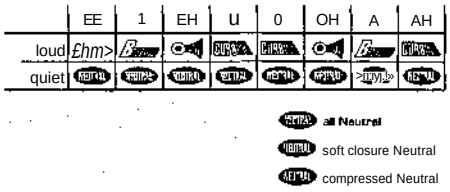
Choose each vowel and sing it in different vol¬umes. You will notice that the voice prefers certain modes at certain volumes on each vowel. If you want another volume or mode you may have to alter the vowel.

Try to sing all vowels in all modes in all volumes and you will feel, which vowels need to alter to make them easier to sing. The further away you

make them easier to sing. The further away you direct the vowel from the exact position of a mode at a specific volume, the more difficult it becomes andihe more control required.

Remember that singers vary - what is easy for one person may not be for another.

The vowels choice of mode



In the above diagram you can see which modes the vowels choose at various volumes. For exam¬ ple, the vowel I (as in sit) chooses the Neutral mode when sung quietly (p) but chooses Belting when sung powerfully (f).

Remember that the choice of mode can be yours, not the one dictated by vowels and volume.

Difficulty of the vowels in the high part of the voice.

In the diagram below you can see how difficult the vowels are in the modes in the high part of the voice. For example, in Curbing I (as in sit) and O (as in woman) are easiest; EE (as in see), U (as in you), A (as in and), and AH (as in far) are mod¬ erately difficult; EH (as in stay) and OH (as in so)

Difficulty of the vowels in the high part of the voice

	EE	1	EH	u	O	OH	A	AH
	EE	1	EH	U	0	OH	A	AH
i!Ja	EE	1	EH	u	O	OH	A	AH
			EH		K	OH		
Shm	EE	I	EH	SC			A	

OH easy

OH more difficult

OH very difficult

must be avoided - **attempt** can cause damage to the voice

soft closure Neutral

<S3> compressed Neutral

are the most difficult.

You can also use this diagram to see which vow¬ els can be sung in which modes. The vowel I (as in sit) for example, is easy to sing in soft closure Neutral, Curbing, and Belting. It is difficult to make the sound non-breathy in compressed Neutral and should never be attempted in Overdrive in the high part of the voice.

Remember how easy a vowel is varies between singers.

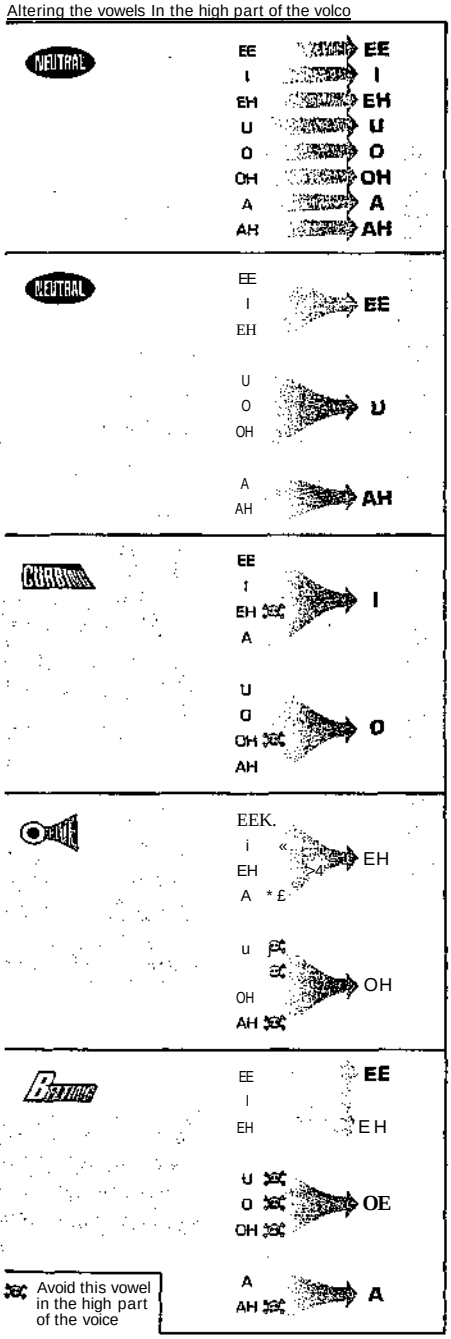
Altering the vowels in the high part of the voice

In the diagram on the next page you can see the modifications needed, depending on the modes, when singing in the high part of your voice. The more metallic the mode the more vital the altering.

If the vowel U (as in you), for example, is sung in the high part of the voice in Neutral there is no need to alter it. If U is sung in Curbing direct the vowel towards O (as in woman). If U is sung in Overdrive alter the vowel to OH (as in so). If U is sung in Belting alter it to UE.

In the low part of the voice it is rarely necessary to direct or alter vowels.

Altering the vowels In the high part of the volco



Transitions between modes

Perfecting the modes

Once you have perfected the modes you can begin practising changing between them. Practising will enable you to change inaudibly and also teach you how to use the vocal breaks that can emerge from such changes (see Vocal Breaks, page 182). Practise-vowels are an excel¬ lent way to gain an overview of the modes.

Practise-vowels

Using practise-vowels to change between modes makes *you* increasingly conscious of which mode you are in and what their limitations are with regards to pitch, vowels, volumes, and sound colours.

Each mode is sung on a specific vowel, volume, sound colour, and character. For example g| 21

^jlflUJjjffr ^"••i""' in s°ft closure Neutral use the vowel AH (as in far) - preferably quietly, with air added and a breathy attack

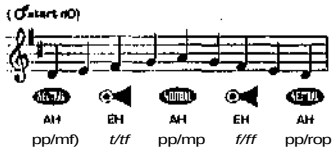
UjffljTHv ^""•••»r in compressed Neutral use the vowel U (as in you) - preferably projected, with a classical sound colour and a simultane¬ ous attack

IrtHA'ffii^ in Curbing use the vowel O (as in woman) - preferably medium loud, with a plaintive sound and a simultanious attack

(i)^ffl in Overdrive use the vowel EH (as in stay) - preferably loud, with a shouting character and a glottal attack

li'lafUBIS in Belting use the vowel I (as in sit) - preferably loud, with the character of a scream and a glottal attack

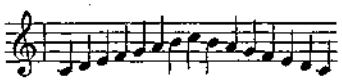
Start by singing up and down through five notes from d1 (for women) or dO (for men). The first two notes are sung in soft closure Neutral with air added, and the following two in Overdrive. Repeat this pattern. Make the difference between the two modes as distinct as possible, so that you have no doubt as to which mode you are in. At first do the exorcise slowly so you have time to make the changes. As you improve practise at a quicker tempo but never make the change so quick that you compromise control, a 22



Change between all the modes by using the practise-vowels and continue to repeat the exercise beginning half a note higher each time. Be careful not to sing too high in Overdrive. Once you are in the high part of the voice, where Overdrive can no longer be used, replace it with Belting, Curbing or Neutral.

Then expand the exercise to include octave scales. Continue to repeat the exercise begining half a note higher each time. Be careful not to sing too high in Overdrive.

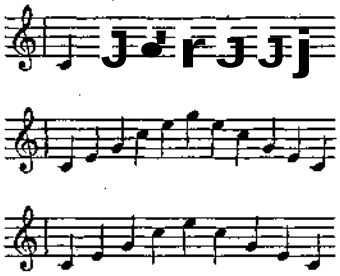
An octave scale



Later expand the exercise to include more than one octave by, for example, changing mode on every third note. Progress through the modes so that you go through all of them in the course of a scale. Of course, as Overdrive should not be used in the high part of the voice, use it earlier in the scale (especially women). Continue to repeat the exercise begining half a note higher each time.

Later expand the exercise to include leaps up through triads. Continue to repeat the exercise begining half a note higher each time. Be careful not to sing too high in Overdrive.

Triads



Select a small part of a melody or song and decide where you want to use certain modes. Practise the phrase. If you want, use practise-vowels. Continue to repeat the exercise begining half a note higher each time. Be careful not to sing too high in Overdrive.

Now select a small melody with text. Decide which modes will be suitable to which vowels and sing the phrase. Use practise-vowels if you like. Continue to repeat the exercise begining half a note higher each time. Be careful not to sing too high in Overdrive.

A case story

An actor and cabaret singer always had problems reaching high notes. She had given up trying because she had been told she had a 'low voice' and would never be able to sing higher. She was told her voice had a natural limit around d2. She wanted lessons for a totally different reason - to develop her expression which she thought lacked expression during singing.

I do not believe that any voice is limited by nature to d2 and I became suspicious when I realised this 'natural' limit incidently was also the upper limit of Overdrive.

It turned out that because she was so good at her hefty repertoire she had been singing and speaking only in Overdrive. As d2/eb2 is the upper limit of Overdrive her problems with high notes and the lack of nuance, was because she exclusively used Overdrive. At first we worked on her speech and practised the modes. We practised speaking in Neutral by keeping a loose jaw and very quiet volumes.. When she could speak quiedy and gently without hoarseness it brought a new dimension to her expression. After singing in

Neutral *for* a couple of hours she was able to sing an additional octave in the high part of the voice! Then we practised Belting by twanging the epiglottis funnel and exclusively singing on the vowel I (as in sit). She developed the ability to sing powerfully in the high part of the voice. When she could control the modes, she was able to reach high notes in both loud and quiet volumes and vary her singing and speaking with a wide range of sound nuances.

Inaudible transitions

Once you perfect the exercises with practise-vowels, try making transitions from mode to mode. Work on making the modes sound like each other so that you can change inaudibly. With this skill you can use the modes where they work the best and avoid where they are not suited.

If two modes are far apart, you may have to insert an extra mode to assist the transition. The following diagram describes how to move from any mode to another.

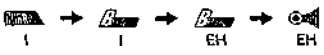
An example

To glide smoothly from Neutral to Overdrive in the high part of the voice you can only use the vowels EH (as in stay) and OH (as in so), as these are the only two they have in common. It is important you do not try to change from Neutral to Overdrive above d2/eb2 (for women) or c2 (for men), as Overdrive does not exist above these pitches.

Remember that if you are in soft closure Neutral you have to go via compressed Neutral to be able to make an inaudible transition to a metal¬lic mode.

Assisting mode

To glide smoothly from Curbing to Overdrive in the high part of the voice you need an assisting mode. Sing the vowel I (as in sit) in Curbing and make an inaudible transition to Belting. Once in Belting gradually change the I to EH (as in stay). Now change from Belting to Overdrive, remaining on the vowel EH (as in stay), ga 88



To get from Overdrive to Curbing do exactly the same thing as above but in reverse. From Overdrive on the vowel EH make a transition to Belting on the vowel EH and so on.

Inaudible transitions	possible mutual vowels	H
<SB> -• •&	all (not EH and OH} *if*	
NEUTRAL →	EH. OH	Not above Q da/fib2 ♂ c2
NEUTRAL → BELTING	EE. 1 EH. A. OE	
i a -• <a»	all [not EH and OHJ *if*	
CURBING BELTING	*k*	Not above ^ cta/ebg
CURBING → BELTING	EE. 1 A, OE	
®4l -• m>	EH. OH	Not above Q d2/eb2 d-02
®4 t&m S »	*	Not above 9 d2/eb2 ♂ c2
→ BELTING	EH	Not above g d2/eb2 ♂ c2
BELTING → NEUTRAL	EE. 1 A, 06	
Ekm -*• am.	EE.I.A.OE	
BELTING →	EH	Not above 9 da/eb ♂ c2

Warnings

* Redirect vowaia to 0 and I in Che high part of the voice

** Use assisting mode

Q For women
Cf For men

NEUTRAL Neutral
To make transition from soft closure Neutral to a **metallic mode,** you *must go* by way *of* compressed **Neutral**

CURBING Curbing

Overdrive

BELTING Belting

Inaudible transitions in relation to pitch

When changing between modes it is important to realise the transitions can vary with pitch. If the transitions are to be inaudible, there are areas within the modes that are better suited to a change.

For women the transition from Neutral to Curbing works best from around d1-f1. If it is attempted at a higher pitch you will usually hear an abrupt change when the metal is being added to the note.

(diagram 1) For women in the high part of the voice Curbing will often glide into compressed Neutral or Belting. Usually this transition is least audible between e2-f2. It is wise to practise both transi¬tions. To change from Curbing to projected com¬pressed Neutral project the epiglottis funnel more and gradually raise the palate. This should make the sound rounder and softer. From here inaudibly let go of the metal. To change from Curbing to twanged compressed Neutral gradually twang the epiglottis funnel and inaudibly let go of the metal, and decrease the volume. To change to Belting twang the epiglottis funnel more, make the sound colour lighter and sharper, and increase the vol¬ume.

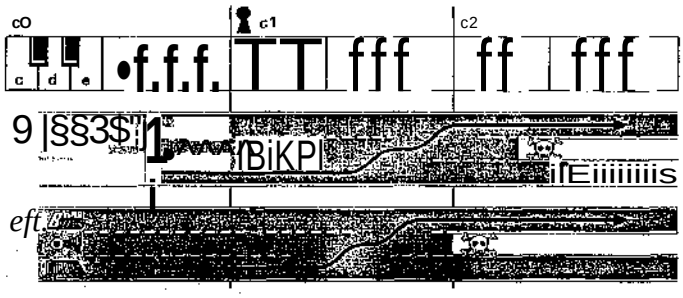
[diagram a) Changing from Curbing to Overdrive works best for women between f1-a1 and men between e1-g1. If you change at a higher pitch it will become more distinct because Overdrive requires louder volumes than Curbing in the high part of the voice.

The higher you sing the more distinct the modes become. Therefore the higher the notes the more difficult it becomes to change mode inaudibly. To change from Overdrive to Belting it is important to start the transition before getting too high. It works best for women between a1- c2 and men between g1-bb1. Gradually make the Overdrive lighter by increasing the twang of the epiglottis funnel and directing all vowels towards the twanged vowels. Remember the closer you get to the outer limit of Overdrive the more provoking the character and volume becomes.

It is easier to make the transitions inaudable by following the red lines

diagram **1**

diagrams



Exercising specific transitions

It is a good idea to have specific exercises for the problems you are likely to encounter in songs. For instance, if you normally sing in a loud volume it is essential to be able to change from Overdrive to Belting without vocal breaks or abrupt changes.

A case story

A very dramatic singer and actor was unable to sing powerfully in the high part of the voice. The notes became thin and whiny. This was unfortunate as her personality and dramatic talent called for a large dynamic range and power. In the lower part of the voice she had no problems singing powerfully but in the high part breaks would occur and from there on the notes became thin.

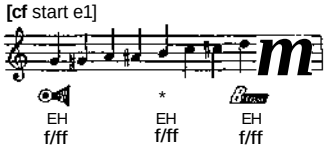
The problem was that in the low part of her voice she used Overdrive and in the high part she could only reach the notes in Neutral. As she was physically strong with a solid and efficient support, we moved direcdy to practising Belting. She was already used to twanging the epiglottis funnel as she had done this to avoid the sound becoming too opera-like in the high part of the voice. All she needed to learn was to add the metallic *sound.*

We worked on sustaining the physical energy required for Overdrive further up her voice as she moved onto Belting. She learned how to continue at the same volume as *in* Overdrive into the highest part of her voice by changing to Belting. After about an hour's work she was able to Belt above the high c. Having gained control over Overdrive and Belting, she soon became nothing short of institution in many major musical productions.

Exercise going from Overdrive to Belting

Sing single notes in Overdrive on the vowel EH (as in stay). Start on g1 (for women) or e1 (for men) and sing in a fairly loud volume without it feeling uncomfortable. Listen to the shouting, full metallic sound and keep this while you ascends by half notes. From a 1 sharp to c2 sharp (for women) or from g1 to a1 (for men) gradually twang the epiglottis funnel (it may also help to raise the larynx, lower the palate and broad the tongue) without changing the sound between notes. Around d2 (for women) or a1 (for men) you should be in Belting and can continue singing higher from here. ^ 2 3

[cf start e1]

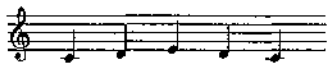


ic Twang the epiglottis funnel
[It may also help to raise the larynx, lower the **palate** and broaden the taunge)

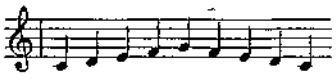
If you find it difficult to move from Overdrive to Belting without an abrupt change, try the above exercise in reverse. Sing single notes in Belting on *62* (forwomen) oral (for men) and descend by a half notes, while trying to make the sound colour of each note less twanged but still powerful. Be careful not to darken the sound colour TOO much as it can wear the voice. By doing this carefully and correctly you should be in Overdrive by about a1 (for women) or g1 (for men).

Once you can control this transition sing a longer sequence, such as scales up and down through three notes, five notes, and later, through octaves. At first practise on EH (as in stay) as this vowel relates to both Overdrive and Belting. Then start practising in Overdrive on the vowel OH (as in so), changing it to OE (as in herb) in the higher part of the voice as you change to Belting. Then practise the transition from EH (as in stay) or OH (as in so) to other vowels in Belting EE (as in see), I (as in sit) A (as in and), EH (as in stay), and OE (as in

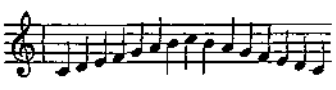
A three notes scale



A fifth scale



An octave scale



herb). Once you are comfortable with changing between the modes on different vowels, try text.

Sing a phrase that contains Overdrive and Belting and continue to repeat the exercise begining half a note highor each time. Be careful not to sing in Ovordrive In too high a part of the voice. It is better to direct the mode towards Belting sooner rather than lator to avoid wearing the voice.

A *cnnc* story

A bines singer with a **very** large **voice** started **to** hav<- problems singing powerfully. **It turned out he** had been singing with a trio instead oflarger bands and with the smaller set-up, the volume of his Overdrive and Belting was too loud. Therefore he had changed to Curbing, to make the volume more suitable.

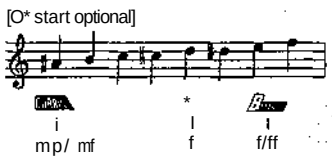
But when he returned to the larger band he was unable to leave Curbing, as he had become accustomed to using less energy. He had also become used to having a larger selection of vowels than was previously possible in Overdrive and Belting. If he wanted a more powerful volume, he would have to replace Curbing with Overdrive or Belting.

We practised the support and he got used to applying more energy and physical strength. Then we practised the exact positions for Overdrive and Belting and he became accustomed to the powerful volume that comes with these modes. Finally, we practised directing the vowels in the higher pitches - towards EH (as in stay) and OH (as in so) for Overdrive - and towards EE (as in see), I (as in sit), EH (as in stay), A (as in and), and OE (as in herb) for Belting. On the very high notes he choose exclusively to use EH and OH (Overdrive) or EE, I, EH, A, and OE (Belting). When Overdrive and Belting were exactly positioned, he was able to sing just as powerfully as before. He continued to sing with both trios and larger bands without problems.

Exercise for going Irom Curbing to Belting

If you sing in medium volume it is important to be able to get from Curbing to Belting without vocal breaks or changes in the sound.

Sing single notes in Curbing on the vowel I (as in sit). Start on a1 sharp (for women) or d1 (for men). Sing in a medium volume without it feeling uncomfortable. Listen to the slightly plaintive, half metallic sound and keep this while you continue to repeat the exercise begining half a note higher each time. At around d2 (for women) or f1 **(for** men) gradually twang the epiglottis funnel (it might also help to raise the larynx and lower the palate) and increase the volume without it feeling uncomfortable. Try to approach the full metallic screaming character of Belting between d2 to e2/f2 (for women) or g1 to a1/bb1 (for men) with¬ out abrupt changes in the sound. You should be in Belting by e2/f2 (for women) or a1/bb1(for men) and can continue singing higher from there. @ 24



* Twang the epiglottis funnel
[it might also help to raise the larynx, lower the palate and broaden the tounge)

If you find it difficult to move from Curbing to Belting without an abrupt change, try the above exercise in reverse. Sing single notes in Belting from e2/f2 (for women) or g to a1/bb1 (for men) and descend by half notes while trying to make each note a little more quiet, more plaintive, and less metallic. However be careful not to make the note TOO quiet or lose the metallic character . entirely, as this will mean the voice has changed to Neutral and this can be wearing. You should be in Curbing around d2 (for women) or f1 (for men).

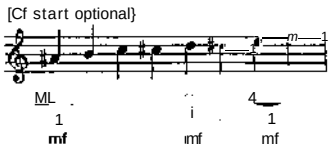
Once you can control this transition sing longer sequences, such as scales up and down through three notes, fifths, and, later, through octaves. At first practise on I (as in sit) as this vowel is the easiest in both Curbing and Belting. Later practise on the vowels EE (as in see), A (as in and), and OE (as in herb). Then practise the transition to other vowels in Curbing and Belting. Once you are comfortable with changing between the modes on different vowels try text.

Sing a phrase that contains both Curbing and Belting and repeat the exercise begining half a note higher each time. It is better to direct the mode towards Belting sooner rather than later to avoid wearing the voice.

Exercise lor going from Curbing to compressed Neutral

If you sing in medium volume it is important to be able to get from Curbing to compressed Neutral without vocal breaks or changes in the sound.

Sing single notes in Curbing on the vowel I (as in sit) on a1 sharp (for women) or d1 (for men). Listen to the slightly plaintive, half metallic sound and keep this while you continue to repeat the exercise begining half a note higher each time. Around d2 (for women) or f1 (for men) gradually decrease the volume and let go of the metallic sound, without it feeling uncomfortable. It may help to raise the palate a little and project the epiglottis funnel more. Try to approach a more soft, non metallic character between d2 to e2/f2 (for women) or g1 to a1/bb1 (for men), without abrupt changes in the sound. You should be in compressed Neutral by e2/f2 (for women) or a1/bb1(for men) and can continue singing higher from there. <?a 25



★ Decrease the volume, let go of the metallic **sound** (It might help to raise the palate a little and project the epiglottis funnel]

If you find it difficult to move from Curbing to com¬pressed Neutral without an abrupt change, try the above exercise in reverse. Sing single notes in compressed Neutral from e2/f2 (for women) or g to a1/bb1 (for men) and descend by half notes while trying to make each note a little louder and the sound more plaintive and half metallic. Be careful not to make the note TOO loud as this may result in a change to Overdrive or Belting, which could wear the voice. You should be in Curbing around d2 (for women) or f1 (for men).

Once you can control this transition sing longer sequences, such as scales up and down through three notes, fifths, and, later, through octaves. At first practise on I (as in sit) as this vowel is usual¬ly the easiest in Curbing. Later, practise on all the vowels (except for EH (as in stay) and OH (as in so) as they tempt the voice into Overdrive). Once you are comfortable with changing between the modes on different vowels, try text.

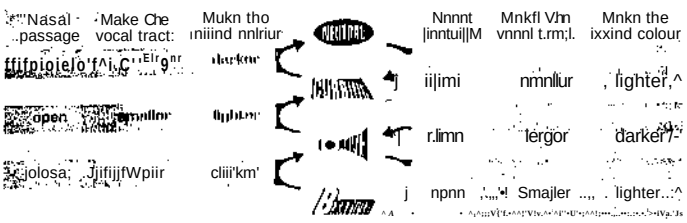
Sing a phrase that contains both Curbing and compressed Neutral and continue to repeat the exercise begining half a note higher each time. Direct the mode towards compressed Neutral sooner rather than later to avoid wearing the voice.

Choice of sound colour

With obvious metallic sounds it is easier to avoid audible changes between modes by choosing light sound colours rather than dark ones, espe¬cially for women.

For instance, a dark Overdrive can only be sung to the middle part of the voice (about bb1) for women and to the high part (about g1) for men. To continue up the voice you need to change modes and this is impossible to do inaudible. If you change to Neutral there will be an audible break, as Neutral does not have a metallic sound. But neither Curbing nor Belting can have a dark sound colour in the high part of the voice. So again, changing to either of these will give an audible break. So you see, had you chosen a light Overdrive instead of a dark, it would have been easier to sing in the high part of the voice without audible changes.

To be prepared you must always consider how high a song reaches before you choose a dark sound colour - unless, for artistic reasons, you want a change of sound.



In this diagram you can see which modes are closest to each other and haw you can merge them

Making transitions naslor

With obvious motalllc sounds it is useful to be able tci moryo the sounds of the modes. By making them sound similar to each other and by being able to change between them inaudibly, you can choose the easiest mode for what you are singing. This is obviously better than sticking rigid¬ ly to a mode and it to its limits. Some sounds are unhealthy in particular modes but healthy in oth¬ ers. Therefore you should choose the 'healthier' mode and experiment with colouring it until you get the sound you want.

You should be cautious when experimenting with colouring the modes. Only attempt it if you can control the modes, are familiar with the three basic principles of singing, and know your voice well enough to know the moment you reach its healthy limits.

In the diagram above you can see which modes are closest to each other and how you can merge them.

An example

You may want to sing quietly with a Curbing char¬ acter. However, you can not use Curbing at a low volume as it damages the voice. Therefore you will have to sing in compressed Neutral while making it sound like Curbing. Twang the epiglottis funnel, make the vocal tract smaller, and you should be able to obtain a sound colour in Neutral that is similar to Curbing. Practise changing between Curbing and this sound colour in Neutral at a volume that allows the transition to be inaudi¬ ble. Once you can do this comfortably, continue with Neutral, keep the sound colour but lower the volume. That way you have achieved a sound similar to Curbing but at a much lower volume. This is, in fact, Metal-like Neutral (see Metal-like Neutral, page 87).

Exercises with volume

If you want to sing phrases or whole songs in an even volume, do exercises with built-in mode changes so that the voice can change to suitable modes by muscular memory.

Sing various exercises, such as scales of five notes or octaves, up through the voice. Start in the low part of the voice and continue to repeat the exercise begining half a note higher each time, and later, half a note lower each time. Note that the examples on the CD are scales of five notes and only three of the possible scales are sung.

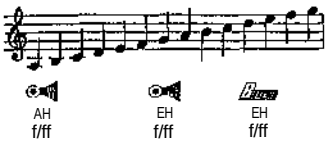
Exercises at powerful volume

If you want to go through all parts of the voice at a powerful volume:

- start with a powerful volume in the low part of the voice in Overdrive on the vowel EH (as in stay) perhaps with a lowered larynx
- as you go up change mode from Overdrive to Belting around bb1/b1 (for women) or g1 (for men). It may be helpful to direct the vowel towards I (as in sit)
- Continue by singing as high as possible in Belting

Make the transition as smooth as possible and practise altering the vowels gradually so there are no audible transitions or breaks. Note that the

examples on the CD are scales of five notes and only three of the possible scales are sung. 27

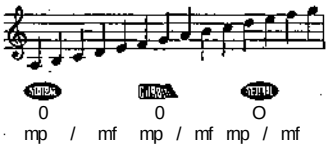


Exercises at medium volume

If you want to go through all parts of the voice at a medium volume:

- begin with a medium volume in the low part of the voice in compressed Neutral on the vowel 0 (as in woman)
- from about the middle part of the voice change to Curbing, still on the vowe! O (as in woman)
- when it becomes impossible to sing any higher without exceeding medium volume (especially for women) change to compressed Neutral still on the vowel O (as in woman)

Practise the vowels U (as in you), I (as in sit) EE (as in see), and AH (as in far) in the same way. Practise the scales so the transitions are made smoothly. Note that the examples on the CD are scales of five notes and only three of the possible scales are sung, 28

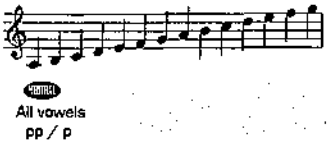


Exercise at quiet volume

If you want to go through all the parts of the voice at a quiet volume use Neutral all the way up.

- Try compressed Neutral with a quiet volume with many different sound colours but do not change the colour or increase the volume dur¬ ing each exercise. Practise all vowels
- You can also practise soft closure Neutral all the way up through the voice. Try adding air to the voice and notice the amount of extra sup¬ port required to maintain the air in the high part of the voice (see Air added to the voice, page 182). Practise all vowels.

Note that the examples on the CD are scales of five notes and only three of the possible scales are sung. 29



Combinations of volume

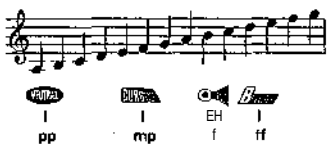
You can go on to combine various volumes and their matching modes. By practising the four fol¬ lowing combinations you can avoid the problems with volume that most singers encounter.

Increase the volume, crescendo

Gradually sing more powerfully as you go up through the voice until you are singing very pow¬ erfully *(if)* in the high part:

- start with a quiet volume in the low part of the voice in soft closure Neutral and add air to the voice on the vowel I (as in sit)
- increase the volume and change to Curbing in the middle part of the voice
- continue to increase the volume and gradually alter the vowel I (as in sit) to EH (as in stay) and sing in Overdrive in the top part of the middle part of the voice
- continue to increase the volume and change to Belting when you cannot sing any higher in Overdrive and stay on the vowel EH (as in stay)
- sing as high as you can in Belting

Make the transitions as smooth as possible and practise altering the vowels gradually so that the changes become inaudible. Note that the exam¬ ples on the CD are scales of five notes and only three of the possible scales are sung. 30

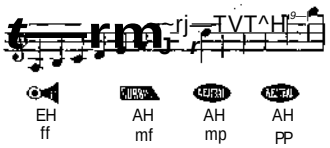


Dacroaso ihn volumn, docraicemla

Bin|ln with a pnwiiiful volumu and gradually diHiiM-i' M. **K.** yon <t> **up through the volco until** y<iu .IIC • **.111<inKi viny i|iilally (pp) In the high part:**

- -.1.HI\.."iiii **.i** I'livvnliil **vokimo** In **the low part In** < ivi'i'iiivii **mi** ihn vownl **EH (ai In stay) perhaps** wilh •i I<iwonxl 1.**Ily**ilX
- > ih'i M-.r.n ihn voiuMiM **mirl ohinoo to Curbing In** n»: 11 mil Ho pin i i>i HID **voice end** also change tho vowel to AI I *(•/•:,* In fur)
- continue to dm-.roiisa the volume and sing In compressed Neutral In the high part of the volco and remain on tho vowel AH (as in far)
- continue to decrease the volume and as you go higher gradually change to soft closure Neutral and add air to the voice. Remain on the vowel AH (as in far)

Make the transitions as smooth as possible and practise altering the vowels gradually in order to avoid audible changes. Note that the examples on the CD are scales of five notes and only three of the possible scales are sung. *6jh* 31

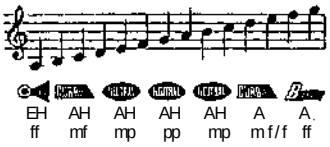


Decrease and increase the volume, decrescendo to crescendo

There are many mode changes in this exercise so they have to be done quickly:

- start with a powerful volume in the low part of the voice in Overdrive on the vowel EH (as in stay) perhaps with a lowered larynx
- decrease the volume and change to Curbing on the vowel AH (as in far)
- continue to decrease the volume and change to compressed Neutral
- continue to decrease the volume and change to soft closure Neutral with air added, still on the vowel AH (as in far). You should now be singing in the middle part of the voice as quietly as pos¬ sible
- now (jrmliiiilly start to Incrnnas tho volume. Change from soft closure Neutral with added air to comproasod Neutral, still on the vowel AH (as In far)
- contlnuo to increase tho volume and change to Curbing directing tho vuwol towards A (as In and)
- continue to Increase tho volume by changing to Bolting un<l stay on the vowel A (as In and)

Make the transitions as smooth as possible and practise altering the vowels gradually to avoid audible changes. Note that the examples on the CD are scales of five notes and only three of the possible scales are sung. <h 32



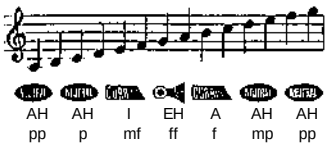
Increase and decrease the volume, crescendo to decrescendo

Practise the above exercise with the volumes reversed:

- sing quietly in the low part of the voice in soft closure Neutral with added air on the vowel AH (as in far)
- gradually increase the volume, change to com¬ pressed Neutral but stay on the vowel AH (as in far)
- continue to increase the volume and change to Curbing and direct the vowel towards I (as in sit)
- continue to increase the volume and change to Overdrive, alter vowel to EH (as in stay), and sing very powerfully (ff)
- from the middle part of the voice gradually start to decrease the volume. Change to Curbing in the middle part of the voice and make the vowel I (as in sit)
- continue to decrease the volume and change to compressed Neutral, now directing the vowel towards AH (as in far)

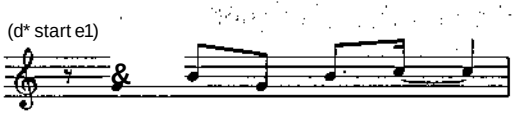
- continue to decrease the volume and change to soft closure Neutral with added air, still on the vowel AH (as in far)
- finally sing as quietly and as high as you can

Make the transitions as smooth as possible and practise altering the vowels gradually to avoid audible changes. Note that the examples on the CD are scales of five notes and only three of the possible scales are sung. 33



Choice of vowel in relation to mode

Sing the same phrase in the different modes and notice the modification or alteration of the vowels necessary to stay in the mode. 26



		I	WAN-	NA	KISS	YOU	j
NEUTRAL	(pp - mp)	I	-wan	- na	kiss	you	
NEUTRAL	(pp - f)	I	wan	- na	kiss	you	
CURB	(mp - mf)	Oi	wOn	- nO	kiss	yO	(O as in woman)
BRIGHT	(f - ff)	EHi	wOHn	- nOH	kEHs	yOH	(OH as in so, EH as in stay)
BRIGHT	(f - ff)	Ai	wAn	- nA	kiss	yOE	(A as in and, OE as in herb)

Speech techniques

Many **ptopla lmrjoitm honme from misusing their volco when thay »p«iik, nnpeclnlly** If they speak loudly **for oxtonclad pnrlods of** tlms. Even singers **who usa correct** tachnlquQ and have no problems **during singing, can** become hoarse when speak¬ing. Singers, actors, priests, school teachers, politicians, and instructors of sports, aerobics, and d;.mco all run the risk of wearing the voice. For all groups, knowing the advantages and limitations of the modes can prevent problems.

Preserve identity

Modifying the way you speak should be done with great care as altering the voice can fee) like changing your identity. There is no need to rectify or smooth over vocal idiosyncrasies. Minor faults, such as a lisp, can be charming so don't feel you have to correct it unless you really want to. Changing the pitch may also feel like changing your identity. I see no reason for doing this unless you truly are unhappy with your sound.

Changing your voice can cause a lot of vocal problems. There have been cases where parents have complained to their doctor that they do not like the shrill voice of their child. The doctor has advised them to make the child whisper for a year. Not only is this an enormous psychological strain it is also very wearing on the voice. It would leave the voice so weak that it would take years to recover. Not to *mention* the psycological conse¬quences!

Speaking in different modes

If you want a voice with many forms of expres¬sions it is practical to be able to speak in different modes. In general, when you speak loudly you *use* Overdrive - and when you speak quietly you use Neutral (compressed or soft closure).

Some people speak in Curbing and others in Belting but these are not as common as Overdrive *and* Neutral. The chosen mode generally indi¬cates the person's level of energy and tempera¬ment.

Many vocal problems appear if you are not aware of exactly which mode you use when you speak.

Speaking in Neutral

Many quiet people - women as well as men - speak in Neutral. The voice can be gentle, non-breathy or breathy, light or dark, but the volume not particularly loud. They usually have many pos¬sibilities for varying their speech, have a large range, and use tonal movements extensively. Such people have problems when they try *to* speak loudly. The Neutral mode is not suited for loud speaking or singing and the voice will often break or split if you try. People who speak in Neutral often quickly get tired voices and feel that it is difficult to be heard.

People wlro speak In Neutral

Compressed Neutral: People who usually speak *very* quietly and non-metallic; women who speak girlish in a high pitch; many classical singers, who have been taught that metallic sounds are dan¬gerous for the voice; Melanie Griffith In 'Working Girl[1].

Soft closure Neutral: Cute, sexy, breathy voices. Marilyn Monroe in 'Some like it hot'.

Exercise (or *speaking In Neutral*

Speak with a loose jaw through all the vowels **EE** (as in see), I (as in sit), EH (as in stay), A (as in and), OH (as in so), O (as in woman), and U (as in you). Practise the positioning of the tongue, if any of the vowels seem a problem (see Pronunciation, page 49). Practise consonants and vowels together. Do not tighten the vowels or relax the consonants. Make sure to open the mouth more when speaking in a higher part of the voice. Be careful not to speak too loudly. Women can start on aO and men on a-1 and from there speak half a note higher each time and later half a note lower until you find what is a natural pitch for you to speak in. ^ 34

Practise just how quiet and how loud you can speak in Neutral on the different vowels.

Practise locating many different sound colours, such as the darkest and lightest in your speech by combining the shape and position of the epiglottis funnel, the larynx, tongue, mouth, palate, and nasal passage. Practise the sound colours whilst speaking on both high and low notes.

Practise adding air to the voice as well as remov¬ing it (see Air on the voice, page 186 and Finding compressed Neutral, page 82). Be careful not to speak too loudly in a breathy voice as it may feel unnatural and can be wearing.

Choose a text and complete it speaking in the sound colour you prefer.

Practise speaking in Neutral in different pitches, sound colours and, volumes (remember that Neutral is a relatively quiet mode).

Speaking in Overdrive

Almost all men speak in Overdrive, as do women with powerful voices. Those who use Overdrive are often loud, extroverted, *vocally trained people* accustomed to speaking to large assemblies or in noisy surroundings. The voice will have a metallic character, the sound colour can be light or dark, and the volume will usually be loud. Such people have no problems speaking loudly but might have problems speaking quietly. Overdrive does not work in quiet volumes and consequently the voice fails and *creaks.* The range in Overdrive can be fairly large but it is usually used in the lower part of the voice.

A case story

A comedian had begun rehearsing a large part for *the* theatre and became hoarse.

He was using Neutral for the part and, although it is an excellent mode for television, it is usually not loud enough for theatre. Attempting to make it louder made him hoarse.

We practised Overdrive for speaking as it is much louder. Once he controlled Overdrive his hoarseness disappeared. He could obtain the same sound colour as before by shaping his vocal tract as in Neutral. He got very excited with being able to change sound colour by changing the vocal tract, because aside from being a comedian he was also impersonator. Now he was able to create the exact character and sound colour of the voices he mimicked.

People who speak in Overdrive

Anyone who speaks loudly.

Exercises lor speaking In Overdrive

Locate Overdrive in singing (see Overdrive, page 102). Remember the sensation, maintain the feel¬ing, and speak on the vowels EH (as in stay) and

OH (as in so). Keep your voice In a low pitch and a loud volume to make It easier to stay In the mode.

If It is difficult to speak In Overdrive, start singing In Overdrivo n little higher where it may be oasior lo locato. Gradually descend ensuring you ninInInIn Iho Ovordrlvo fooling and character, until you nrrlvo nt your spooking pitch. Change from singing to spanking. Mnko sure it does not feel uncomfortable or wrong.

Now try to practise other vowels, maintaining **the** same sound and feeling. Practise placing conso¬nants before and aftor the vowels but make sure the vowels do not lose their Overdrive character. Speak loud and clear but make sure it sounds nat¬ural. If it is difficult to locate Overdrive start by exaggerating the distinctiveness and volume. Later when you are able to speak in the mode, make it sound more natural. Practise speaking with short syllables. Later practise sustaining the energy to several syllables and longer sentences. 35

Practise just how quiet and how loud you can speak in Overdrive on different vowels. Become familiar with these limits so you will alway's be.' able to move safely within the mode. Take care not to speak too softly as you will come out of the mode.

Practise locating several different sound colours by combining the shape and position of the epiglottis funnel, larynx, tongue, mouth, palate, and nasal passage. Locate the lightest and dark¬est sound colour in your voice and the colours in between. Choose the ones you like and practise speaking with these on both higher and lower notes. Notice the higher the pitch, the louder the volume.

Say a short text in the sound colour and volume you prefer. Be careful not to speak so quiet that you lose the mode.

Practise speaking in Overdrive while combining different pitches, volumes, sound colours, and vowels.

Speaking In Curbing

Some people speak in Curbing which gives a locked up, and restrained sound. It is a mode that requires a lot of support to create, keep, and pre¬vent from changing to Overdrive or Belting. If this mode sounds unclear or locked up you are not giving it sufficient energy. The range of the voice may be limited to a medium high pitch and the speaking is often monotone. The vowels sound similar, and the range og volume is limited.

A case story

A young, talented blues singer had consulted an ear, nose, and throat specialist for hoarseness. The special¬ist insensitively told her that her vocal cords were unsuited to singing and that she should give up. She was devastated and wanted to find out if there was anything she could do.

Her voice was worn and she had developing nod¬ules on the vocal cords. Nodules only indicate that the voice needs a rest (not that it was unsuited for singing) so I recommended that she be completely silent for two weeks. In the meantime we worked on her support. After the two weeks of silence the nodules were gone and her voice was ready to start practising.

It turned out almost everything she sang was in a metallic mode. She found these modes too loud for speaking so she had decreased the volume and sub¬consciously changed to Curbing. Curbing, however, requires a lot of support and does not have a large vol¬ume. Therefore it was difficult for her to speak loudly. When she tried, together with her poor support, she became hoarse.

At first we worked on speaking in Overdrive, loud volume and full metallic. When she had perfected this we added Neutral for when she wanted to speak quiet¬ly. The Neutral mode also gave her added possibilities in her singing.

Happily, she choose to work with the voice instead of giving up singing. Today she is an outstanding pro¬fessional singer.

Poople who speak in Curbing

People who speak in a restrained and slightly whining manner and the stereotypical Italian from American movies: Marlon Brando in 'The Godfather' and Robert De Niro in Taxi driver'.

Exorclsos (or speaking in Curbing

At first practise the Curbing mode (see Curbing, page 91). If you want to transfer this sound to speaking it must be practised. Create the 'hold' for Curbing and speak with it. Practise speaking in Curbing following the same procedure as for Overdrive. Feel how the range of notes becomes limited, and that you have to direct the vowels towards a common sound in order to get the most from the voice. Make sure that speaking in Curbing - just like speaking in the other modes - always feels comfortable, ffi 36

Speaking In Belting

Some people speak in Belting which gives **a** sharp, metallic, loud sound with a light sound colour. Belting is a mode with loud volumes. People who speak in Belting will not normally have problems when speaking loudly, but may have problems speaking quietly. If sufficient ener¬ gy and volume is not applied to the Belting mode it will fail and the voice will split. The range of voice is usually in the higher part of the voice. The volume will be loud.

People who speak in Belting

People who speak sharp, light, and loud: Lucille Ball in 'I love Lucy', Rosie Perez in 'Do the right thing' and 'White men can't jump'.

Exercises for speaking in Belting

Twang the epiglottis funnel and speak with this sharp, light, and loud sound. Feel how the mode is easier when the pitch is higher. If you want this sound for speaking, first practise Belting (see Belting, page 112) and then practise speaking in Belting by the same procedure as for speaking in Overdrive. Make sure that speaking in Belting - as with the other modes - always feels comfortable. **©37**

About speaking in general

The sound ol the voice

Everybody expresses something through the sound of their voice. The darker you make the sound colour the more you signal authority and responsibility. Many a managing director has tired her/his voice from placing it too low, when speak¬ ing from a platform. In fact, it is difficult to hear and understand when a voice is used in too low a pitch. This tendency to darken the voice is often found amongst women and men who wish to give an impression of authority - for example, women in male dominated professions like business, pol¬ itics, or rock music. For singers, this tendency often causes problems with reaching high notes.

Conversely many men and women choose a light and gentle sound colour in Neutral. This can seem more disarming, the person signalling inno¬ cence and tenderness as well as a subconscious appeal to be protected. This tendency to lighten ones voice is often found in more quiet men and women. For singers, this tendency often causes problems with obtaining louder volumes.

Myths about techniques tor speaking

Many classical singers are taught to speak in Neutral as it 'spares the voice'. But this is not true. One mode is no healthier than another. All modes are equally healthy if used correctly and just as wearing if used incorrectly. By limiting yourself to one mode you miss out on numerous possibilities of expression. If, for example, you choose to speak solely in Neutral you may have problems with speaking loudly. If you choose to speak sole¬ ly in Overdrive you may have problems with speaking quietly. Therefore change between the modes; use Neutral for quiet speaking and Overdrive for loud.

Other singers have b» -• -• **i** MM ii i. I. :. W«.IMI«I k\ speak in a higher piii h .uni ••>> · |..'.ii iiiijimi I**linn** they normally wou/il HI Mi" in I|H II I•. nni inn. Hint a higher pitch la IUIUKIIUM unl"•.•. y«n n,iiimilly have a very light v<ik >• .nni .1 >"-iy in .ml l.uynx. The reason why pnnipn ,ur .nivi'..i in .pcik In an hlcjhoi plii.li I-. I»M .»:•." ,1 *m.i)*:,-. il (;asler chonsn Notili'il .will Ihl:t i.niiml i-. conventionally I)DIIIIVIMI ID lie IHMIUIIIII. NIIIIII.II 1:. only healthy if you :.|)i')ik In .1 .|iiKtl volume. It can be very dam¬aging in a lotiilci volume. So instead of making people speak in an artificially high pitch it is healthier to make them change between the modes; use Neutral for quiet speaking and Overdrive for loud, regardless of the pitch.

Another pitfall is over-articulation. Many people over-emphasise the tightening in the jaw and lips hoping to get more distinct pronunciation. This rarely improves pronunciation, rather it triggers constrictions which complicate speaking or singing and often causes problems. The tightened jaw and lips often give speech a very jagged char¬acter and it looks artificial. The lips do not have to move more during distinct speaking and singing.

To pronounce distinctively first decide which mode will be suitable. Then practise the position of the mode and use the special positions of the tongue to form the vowels (see pronunciation, page 49). It is also important not to exaggerate your pronunciation when using a microphone, as it may distort the sound (see Microphone Technique, page 166).

AvuM iiimiililnii ninnalmtoufily - nltnnuitn lintwnnn mmlns

A MioiiolDMoiiH voice is tiring to listen to. After a shDit llmu tho listener usually loses interest. It is, howovor not difficult to vary your speech.

By alternating between the modes and posi¬tions of the vocal tract you can use a larger range in your voice and obtain large differences in vol¬ume and sound. It is therefore a good idea to be able to control several modes for speaking - for example, Neutral for speaking quietly and gently and Overdrive for speaking loudly.

It is also important to be able to change between these modes during speech. When you have perfected the modes you are interested in, practise alternating between them. This way you will develop a large range in pitch and volume. You will also be able to keep the sound colour that you think suits you best, without having to alter either volume or pitch.

Dancers

Dancers have often been unfairly considered ter¬rible singers. This is because dancers are taught to breath with the upper part of the chest - danc¬ing theory instructs that this is the correct way to breathe to perform physically demanding dances. However, this conflicted with the old view of singing that breathing should be done from the abdomen. Dancers were reluctant to breathe in this way because they were taught it would hinder their dancing and also because it did not follow the ideal of how a dancer should look. Also dancers often have very raised larynxes (probably because of posture) which combined with their enormous amount of strength giving them a voice often in Belting. This obvious metallic sound went aginst the old view of singing and was considered wrong. This was probably why they were labelled as terrible singers. •

Sing and dance at the same time

I would never recommend anyone use abdominal breathing for singing as it is usually strenuous and uncomfortable. The pressure often triggers muscular tensions and is not a particularly pretty sight either. Neither would I recommend chest inhalation as this usually feels unpleasant and tight, is difficult to maintain, and can create muscular tensions. Instead I urge both dancers and singers to use diaphragmatic breathing as this benefits singing as well as dancing. Make the diaphragm expand all Ihe way around the chest, partly at the lower ribs and partly at the front in the solar plexus. This achieves far greater expansion than chest breathing and has the added advantage of being less visible than abdominal breathing. Therefore dancers only need to expand the chest slightly and need not fear that breathing will expand the abdomen.

In my experience many dancers who have altered their breathing in this way have benefited from the change. It is always better to follow the body than go against it. The body becomes stronger and is able to perform better in both singing and dancing.

Regarding sound, I would urge dancers to work on the metallic mode for which they have a natural talent. It is so strenous to dance and sing at the same time that it is important to use the exact position of the mode *to* get the most out of the energy put in. When they are able to obtain the exact position of that mode they can move on to the other metallic modes.

Once they have achieved the exact positions of the metallic modes, the non-metallic mode (Neutral) becomes easier to find as they now have something to let go of - the *metallic sound.*

You can also chose to stay in the metallic modes, as today tastes have changed and the metallic sound is now often prefered in musical theatres.

A case story

A very skilled saxophonist had become hoarse. He thought it was due to the way he spoke but it turned out to be from constrictions around the vocal cords from when he played his instrument. This was because he had been taught to use incorrect support while playing - the abdomen was pressed outwards (see Support, page 23).

The saxophonist was worried about altering his support technique after so many years but he took the chance. When he started to follow the body instead of going against it, he could find much more support. He was able to reach louder volumes and higher notes on his instrument. Now the support no longer triggered constrictions and his hoarseness disappeared.

Sound Colour

The todinlquos In this chapter *apply* to both slngors find wind Instrument players.

The Vocal Tract

The vibrations of the vocal cords produces sound. When this sound passes through the vocal tract (the mouth cavity) the 'sound colour' is created. The vocal tract is made up of the whole mouth cavity from the vocal cords to the lips or nasal passageway. Its form and size influence the sound colour.

Both men and women can have light or dark, small or large voices. All have different vocal tracts and therefore all have individual sound colours. Usually you can recognise a person from her/his sound colour.

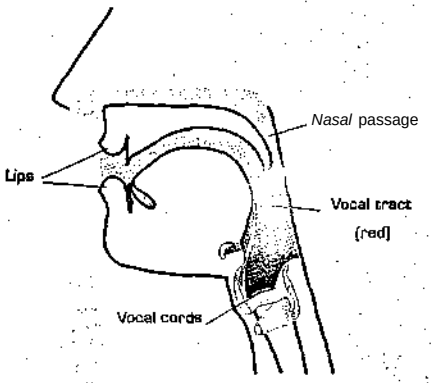
The acoustic rule

Everyone is subject to certain acoustic rules. If the space in the vocal tract is large, the sound will be darker; if it is small, the sound will be lighter. In other words, if the vocal tract is large, the sound colour will be darker; if it is small, the sound colour will be lighter. So a person with a wide jaw and large mouth - a large vocal tract - usually has a more resonant and darker sound colour than a person with a narrow face and a small mouth - a small vocal tract.

Try clapping with cupped hands (a large cavity) and listen to the dark sound colour. Now try clapping with flat hands (a small cavity) and listen to the light sound colour. You can always remember the rule by this test. ^ 73

Changing the vocal tract

The many structures of the vocal tract can be moved in many directions so there are many ways of changing sound colour. You can change the



shape of the vocal tract by changing the form and position of the epiglottis funnel, the larynx, the tongue, the mouth, the palate, and the nasal passage.

For clarity, I have considered each *of* the structures in turn. However, the structures cannot be controlled completely independent of each other because they interact.

Developing your own sound colours

A good singer is often characterised by having an even sound colour and volume, regardless of pitch. For example, a trained singer will not necessarily sing more quiet on the high notes and louder on the low notes. Performing with even sound colour and volume is technically demanding and often requires practise.

Rhythmic and classical music demand different sound colours. I urge both rhythmic and classical singers to experiment and find the sound *colour* that suit them best. Avoid uniformity. Use your artistic sense to develop the sound colour you like, the one you think suits you and your music.

Some singers find it easier to practise an even sound with a relatively dark and rich sound colour

(as in classical singing). Experiment to find a sound *colour that you* can keep even and practise it.

A case story

An alto with an enormous voice, had problems reaching the highest notes *in* her new role. We worked on gradually raising the larynx as the pitch became higher but she found it difficult and unnatural. She was afraid that raising the larynx would compromise the rich, dark sound she was famous for. She also felt that it prevented her from using her sound colour sufficiently.

Fn actual fact, she had such a big voice that she did not need to worry about using it less than 100 %. Even half of her voice was still very big! At last she accepted *trying to raise* the larynx and after twenty minutes she could reach five more notes than previously.

After such encouraging results she worked on raising the larynx on the higher notes. We then worked on *colouring* the *sound* a bit darker, without loosing the raised position of the larynx. As she began to reach the high notes her colleagues began clapping spontaneously from outside the rehearsal room. They said her voice had never sounded better as it sounded naturally dark and therefore more impressive. Her role in *the* new opera was critically acclaimed.

Exercising sound colours

Find as many different sound *colours as* possible by combining the shape and position of the epiglottis funnel, larynx, tongue, mouth, palate, and nasal passage. For example, find the lightest and the darkest sound colour in your voice. Practise the colours in the high parts as well as the low parts of your voice, for example, by singing scales. @ 14

Pick a song and perform it with all the different sound colours you *are* able to find in your voice.

For many singers it is often the form of the vocal tract which determines the mode. That is why they find some modes harder to obtain than others. This should not be the case. A singer should be able to choose a mode independent of sound colour. To do this you should practise each mode with both light and dark sound colours. Remember to respect the limitations of the modes with regards to the form of the vocal tract. For example, you must not project the epiglottis funnel in Belting.

- Practise soft closure Neutral with a light and dark sound colour
- Practise compressed Neutral with a light and dark sound colour
- Practise Curbing with a light and dark sound colour
- Practise Overdrive with a light and dark sound colour
- Practise Belting with a light and little less light sound colour. Be careful not to make the sound colour too dark as it can feel very uncomfortable

Warnings

When you are changing sound colour be aware that:

- the form of the vocal tract must not impair the mode
- you cannot project the epiglottis funnel in Belting
- you have to be careful not to choose too dark a sound colour in metallic modes

And remember

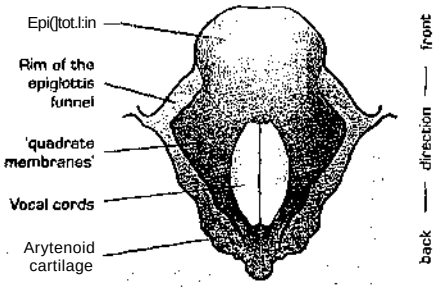
- Singing must always feel comfortable
- The technique must have the intended effect instantly, otherwise it is not being done correctiy
- If an exercise hurts, feels uncomfortable, or feels wrong - it IS wrong. You are the one who knows how it feels, so always trust your feelings

In the following six chapters each part of the vocal tract is examined.

The Epiglottis Funnel

Alinvn Iliri voc.nl cords are two quadrangular uiruiil'iffftdK, conveniently called 'quadrate mem-Iii.iiiiIM'. Together with the epiglottis at the front **mid** the aretynoid cartillages at the back, they form a funnel. You can see the rim of this funnel when you look down the throat with a mirror **or** a fiberscope. The different shapes that this **funnel** can assume affects the sound **colour of your** voice.

Looking down t.he npifllot.Un fiinnnl wll.li n mIrrnr

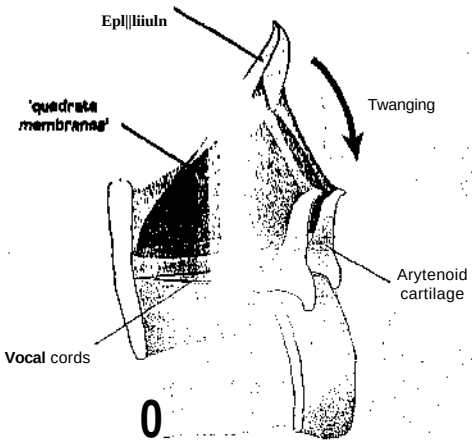


Twanging

When the opening of the funnel is made smaller by bringing the epiglottis closer to the arytenoid cartilages, the sound assumes a sharper and more penetrating and snarling character, similar to a cackle. This is known as a twanged sound. The more compressed the funnel the more snarling the sound. You can increase your volume by 10 to 15 decibels by twanging alone, /fa 75a
Vila/

It is easiest to find the twanged epiglottis funnel by practising the following sounds:

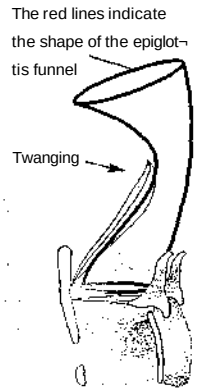
- an infant crying
- a duck quacking
- making your voice grating and witch-like
- speaking like someone who has an evil plan
- imitating a diving aeroplane
- making the sound of driving a toy car



The closer the epiglottis moves towards the arytenoid cartilages, the more twanged the sound becomes

- imitating the sound of a very loud ambulance siren
- saying 'Meow' (without the U-sound) like a cat

The twang is used, for example, in the stereo¬typical American way of speaking (the southern accent) and often in country music. It is often mistaken for nasality but has nothing to do with it. In twang the sound comes out through the mouth and not the nose (see Nasal Passage, page 163).



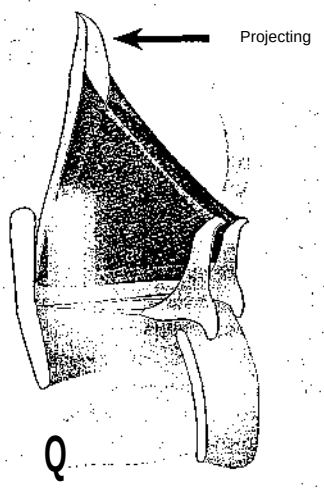
Twang and vowels

The twang works best with the vowels EE (as in see), I (as in sit), EH (as in stay), OE (as in herb), and A (as in and) because the tongue is posi¬tioned against the molars in the upper part of the mouth which help twanging the epiglottis funnel. OH (as in so), O (as in woman), U (as in you), and

AH (as in far) are problematic as these vowels lower the back of the tongue, causing you to lose the twang of the the epiglottis funnel. In twang OH, O, U are changed into sounding more like an OE (as in herb). OH (as in so) is changed into OEH. O (as in woman) is changed into OE. U (as in you) is changed into UE. AH (as in far) is changed into A (as in and). Practise each vowel separately. *gg*\ 76c

Projecting

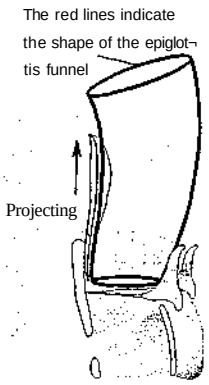
If the epiglottis is raised, becoming more upright, the opening of the funnel becomes larger, giving a more round and thrown forward, projected sound. The more upright the epiglottis the *more* projected the sound. The projection is known as 'carrying' or 'focusing' the sound, ^a 75b



The more upright the epiglottis the more projected the sound.

Classical singers prefer a much more projected sound than rhythmic singers. A well projected sound is an essential part of the ideal sound colour in classical singing, partly because classi¬cal singers often sing acoustically. Without this projection it would be difficult to be heard in a concert hall.

Rhythmic singers can also benefit from using projection if they sing without a microphone. However they have to be aware that a very projected tone does not sound good through a microphone.



Projection as images and sensations

It is quite difficult to feel the epiglottis funnel but you can reach it mentally and by ear.

- Try raising the palate and pretend you are suck¬ing in a lot of air
- Imagine the epiglottis funnel as a tube that you are squeezing into a long, thin shape
- Imagine that air surrounds the long, thin tube
- Imagine that the note runs up inside the thin tube without touching the sides
- Place a thumb behind your front teeth and pull forwards. Feel the sensation in your throat when you try to resist it with your palate
- Notice the sensation in the epiglottis funnel when you shiver

An image

Exercising projection and twang

Become familiar with the difference in sound between the projected and twanged epiglottis fun¬nel. Make sure you can project and twang notes at will.

Practise singing with a projected epiglottis funnel on single notes and then on scales.
Practise singing with a twanged funnel on single notes and then on scales. ®i 9

Go through a whole song with a projected or twanged sound.

For many singers it is often the form of the epiglot¬tis funnel which determines the mode. That is why they find some modes harder to obtain than oth¬ers. This should not be the case. A singer should be able to choose a mode independent of the position of the epiglottis funnel. To do this you should practise each mode with both a twanged and projected epiglottis funnel. Remember to respect the limitations of the modes with regard to the position of the funnel. For example, you must not project the funnel in Belting.

Practise soft closure Neutral with a twanged and projected epiglottis funnel
Practise compressed Neutral with a twanged and projected epiglottis funnel
Practise Curbing with a twanged and projected epiglottis funnel
Practise Overdrive with a twanged and projected epiglottis funnel
Practise Belting with a very twanged and less twanged epiglottis funnel. Be careful not to twang the epiglottis funnel TOO little as it can feel very uncomfortable ®

Warnings

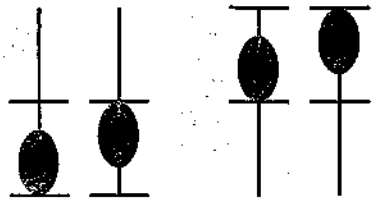
When you are changing your sound by changing the form of the epiglottis funnel, you have to be aware that

- the form of the funnel must not impair the mode
- you cannot project the funnel when singing in Belting
- you have to be careful not to project the funnel too much in the metallic modes

The Larynx

The position of the larynx is fundamental to the pitch of the notes. It is raised on high notes and lowered on low ones. However the larynx can also be slightly adjusted to affect sound colour. In mak¬ing such adjustments singers must be careful not to change pitch.

Possible positions of the larynx
to colour sound in different pitches



Lowered and raised larynx on a low note

Lowered and raised larynx on a high note

It is unhealthy to position the larynx in a way that works against the pitch. Classical singers are encouraged to have 'a low-positioned larynx' as it creates the required dark sound colour. However some take the expression too literally and have problems reaching high notes.

Before trying to alter the position of the larynx to change sound colour you must control the range of your voice. This means being able to reach high and low notes without problems. Only when you can do this should you attempt to use the larynx to change sound colour.

Remember from now on that when raising or lowering the larynx is mentioned in connection with sound colour it means a MINOR change in the position. Not so big that it impairs the pitch!

Lowering the larynx

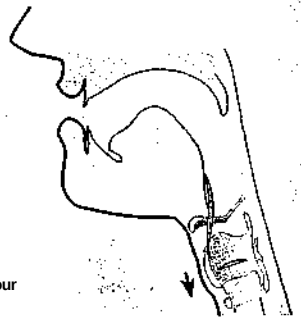
When you lower the larynx the sound colour dark¬ens because the vocal tract is enlarged - the lower the larynx, the darker the sound colour. Opera singers often use a lowered larynx to achieve a rich, dark colour. When you lower the larynx you

usually raise the palate too. This contributes **to** the darkening, gj 74a

You can lower the larynx by:

- pretending to inhale or prepare for a yawn
- taking a deep breath

It is possible to look in a mirror and notice exactly when and how you lower your larynx

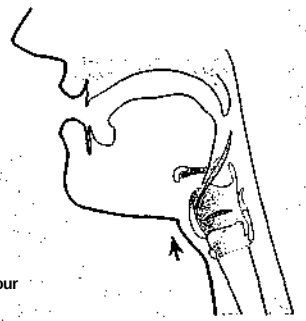


A lowered larynx
darkens sound **colour**

Raising the larynx

Raising the larynx lightens the sound colour because the vocal tract is smaller - the more the larynx is raised, the lighter the sound colour. ® 74b

When you raise the larynx two other things happen: the palate lowers and the tongue positions itself on the molars in the upper part of the mouth. This means that you can achieve a raised larynx by working on the palate and tongue.



A raised larynx
lightens sound **colour**

When learning to raise the larynx it might help to focus on the position of the tongue.

- Make the space between the tongue and the palate small
- Speak with a broad tongue placed as high up in the upper mouth as possible
- Make sure the tongue does not form a small hollow in the middle

Raising the larynx through sounds

You can also achieve a raised larynx by using sounds:

- The sound gets light, flattened, and small
- Speak like a child
- Making the sound of driving a toy car
- Speak like a man speaking like a woman

Raising the larynx through images and sensations

You can also achieve a raised larynx by using images and sensations:

- The space between the tongue and the palate should be small. Imagine that you keep a pea between the tongue and the palate. Keep this position of the larynx on all vowels in the high and in the low part of the voice
- Imagine that you are about to swallow or throw up. Feel that the position of the larynx is high. Feel the position of the uvula. Feel that the larynx is touching the root of the tongue. Keep these sensations when you sing with a raised larynx
- Sing a high note or a highpitched scream. Feel that the larynx is raised and keep this sensation

A case story:

A leading soprano at a major opera had problems with singing very high notes. She had not had problems before but had recently started singing larger and more dramatic parts and now the high notes seemed difficult. She had been told that it was probably a combination of her age and the heavy roles that had changed her voice over the years. She was told she would have to live with it. In my opinion the problem was not age or a change *of voice but* a problem with technique.

Instead of making her voice heavy and broad by maintaining a lowered larynx, we practised gradually raising the larynx as the notes became higher. She was,

therefore; iminitw wiy ll^it mnl RII-HHII on the high notes, *tt wt\Hi\UUv\iU* liir lifi Ut urcrpt the tiny and very li^nf Krimiff culiHir Iniv/iig worked with heavier and dm km-f≤iillHif* tin[1] NO !»>#• However, we made the exer-I'tnrn^riuliiiilly lighter until the notes were mere shrieks iintl rif(iiml.i. And suddenly she was able to sing three tmir-H higher than in recent years.

We then added a little more body and warmth in the notes by projecting the epiglottis funnrl a little more without changing the position of the l;uyu\. \\\\\ as soon *as she had* difficulties wilh ihr piirh, wr returned to the small, Jigbf *snumls to* rr#mú (lir < (mired pitch.

After a few day.s ,i)ir li;nl Ir.nnf fJir nrw jin.iifini) *vf* lUr Inrynx on high *w>\c,n* and li-id no further problems in rcudiiu^ llirw hi^U nolcn, tvrn though the sound colour was relatively dark. Three months later she could even sing four notes higher than before.

Exercising raising and lowering the larynx

Familiarise yourself with the difference between the sound of a raised and a lowered larynx. Make sure you are able to raise and lower the larynx at *will.*

This exercise is good for raising the larynx. start an octave scale with a lowered larynx and dark sound colour and gradually raise the larynx and make the sound colour lighter and lighter towards the high notes in the scale. Make sure that the high notes become frail, light, and non-breathy. Gradually make the sound colour darker as you descend *the* scale again. Move the exercise upwards by half a note at a time. *@fa* 16b

Practise singing with a raised larynx on single notes and then on scales.
Practise singing with a lowered larynx on single notes and then on scales, g) 8

Go through a whole song with a raised larynx and then with a lowered *larynx.*

For many singers the position of the *larynx* deter¬mines the mode. That is why they find some modes harder to obtain than **others. This** *should* not be the case. A slngar should b« **ible** to choose a mode irrespective of **thl** position of tha larynx. To do this you should practise each mode with a raised and n loworod larynx. Remember to respocl *Ihn llmllnlhHIS of the* modes with regard to HID pouJIDM of din l/uyiix. For example, be careful not lo liiwnr Ilio liiiynx loo much in Be/ting.

Praclisn soft closure Neutral with a raised and a lowered larynx
Practise compressed Neutral with a raised and a lowered larynx
Practise Curbing with a raised and a lowered lar¬ynx
Practise Overdrive with a raised *and* a lowered larynx
Practise Belting with a very raised and a less raised larynx. Be careful not to raise the larynx TOO little as it can feel very uncomfortable

Warnings

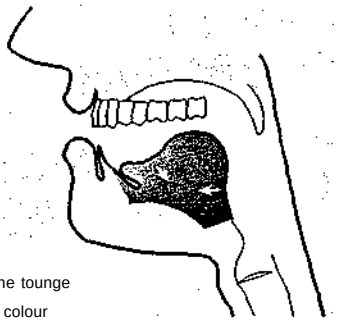
When changing the position of the larynx be aware that:

- the position of the larynx must not impair the pitch
- the position of the larynx must not impair the mode
- you should not lower the larynx in Belting (except *very* experienced male classical singers)
- you should not lower the larynx too much *in* the metallic modes

The Tongue

Compressed tongue

If you make the tongue small, the sound colour becomes darker because the vocal tract becomes larger. This is referred to as compressing the tongue. The tip of the tongue lies flat down in the oral cavity, the tongue arches in the middle, and at the back it pulls into itself (see diagram). With the tongue in this position, the vowels become more operatic - this sound is not yet accepted within rhythmic singing. (X) 76a

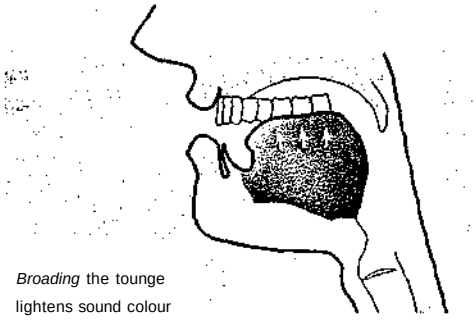


Compressing the tounge darkens sound colour

Find the position of the compressed tongue by try¬ing to sing opera. Maintain this position and feel exactly how the tongue is placed. You can look in a mirror and see how the tongue is formed like a spoon (of course, you can not see the back of the tongue). In classical singing technique this posi¬tion is called 'cucchiaio', which is the Italian word for spoon.

Broad tongue

You can make the oral cavity smaller by making the tongue broader. This creates a light sound. The tongue is positioned against the molars in the upper part of the mouth and arches towards the pa/ate (as when you say twang). Feel that the space between the palate and the tongue gets smaller the *more you press* the tongue against the molars. The smaller the space between the *palate* and the tongue the lighter the sound. It must be the sides of the tongue that touch the molars, not the tip. If the tip of the tongue is raised the back usually comes off the molars, fig, 76b



Broading the tounge lightens sound colour

You can find the broad tongue by moving the tongue back and forth along the teeth in the upper part of the mouth and creating a small space between the tongue and the palate.

You *can also* find the broad tongue through images and sensations:

- pressing the space between the tongue and the palate together
- saying 'twang' and feeling where the tongue touches the molars. Keep the tongue in this position on all vowels
- imagining you are holding a small pea between tongue and palate

You can also find the broad tongue through sound:

- imitating the sound of a baby crying
- imitating a duck quacking
- speaking like a child
- making a sound like a diving aeroplane
- making a sound like you are driving a toy car
- grating your voice to sound like a witch

A broad tongue helps maintain a raised larynx and a twanged epiglottis funnel. Therefore, the sound of a broad tongue is close to that of a twanged epiglottis funnel. However, the sound from a twanged epiglottis funnel is sharper, louder, and

more twanged than a broad tongue alone. I felt this needed a few more words to explain.

A broad tongue is used, for example, in the stereotypical southern American way of speaking, and also often in country music. It is often mistaken for nasality but has nothing to do with it. With a broad tongue the sound comes through the mouth and not the nose (see Nasal Passage, page 163).

Broad tongue and vowels

The broad tongue works best with the vowels EE (as in see), I (as in sit), EH (as in stay), OE (as in herb), and A (as in and) because the tongue is already positioned against the molars in the upper part of the mouth. OH (as in so), O (as in woman), U (as in you), and AH (as in far) are problematic as these vowels lower the back of the tongue, preventing it from being placed against the molars in the upper part of the mouth. When broaden the tongue OH, O, U are changed into sounding more like an OE (as in herb). OH (as in so) is changed into OEH. O (as in woman) is changed into OE. U (as in you) is changed into UE. AH (as in far) is changed into A (as in and). Practise each vowel separately. (S& 76c

Exercising broading and compressing the tongue

Become familiar with the difference between the sound of a broad tongue and a compressed tongue, so you are able to broad or compress at will.

Practise singing with a broad tongue on single notes and then on scales.
Practise singing with a compressed tongue on single notes and then on scales. @ 10

Go through a whole song with a broad tongue and then with a compressed tongue.

A singer should be able to choose a mode irrespective of the position of the tongue. To do this you should practise each mode with a compressed and a broad tongue. Remember to respect the limitations of the modes with regard to the position of the tongue. For example, remember that you need a lot of control to use a compressed tongue in Belting. Also remember that a compressed tongue gives a classical vowel sound in all modes.

Practise soft closure Neutral with a broad and compressed tongue
Practise compressed Neutral with a broad and compressed tongue
Practise Curbing with a broad and compressed tongue
Practise Overdrive with a broad and compressed tongue
Practise Belting with a broad and compressed tongue. Remember that you need a lot of control to use a compressed tongue in Belting

Warnings

When you are changing your sound by changing the position of the tongue remember that it must not impair the mode.

The shape of the Mouth

Relaxing the corners of the mouth

The shape *of* the mouth also influences sound colour. If you sing with the corners of the mouth relaxed you usually achieve a darker sound colour because the vocal tract becomes larger. ($, 77a

Relaxing the corners
darken the sound colour

Smiling

If you sing with the *corners* of the mouth extend¬ ed as in a smile, the sound colour usually becomes light because the vocal tract becomes smaller. Notice that as you smile the tongue usu¬ ally places itself by the molars in the upper part of the mouth and the larynx raises slightly. Q 77b

Smiting can
lighten the sound colour

Exercising different shapes of the mouth

Become familiar with the difference in sound between a relaxed mouth and a smiling mouth. Make sure you are able to change the shape dur¬ ing singing.

Practise singing with extended corners (as in a smile) on single notes and then on scales.
Practise singing with relaxed corners on single notes and then on scales, g 11

Go through a whole song with extended corners and then with relaxed corners of the mouth.

A singer should be able to choose a mode irre¬ spective of the shape of the mouth. To do this you should practise each mode with both a smile and relaxed comers. Remember to respect the limita¬ tions of the modes with regard to the shape. For example, remember that you need a lot of control to use relaxed corners in Belting.

Practise soft closure Neutral with a smile and relaxed corners of the mouth
Practise compressed Neutral with a smile and relaxed corners of the mouth
Practise Curbing with a smile and relaxed corners of the mouth
Practise Overdrive with a smile and relaxed cor¬ ners of the mouth
Practise Belting with a smile and relaxed corners of the mouth (remember that you need a lot of control to use relaxed corners in Belting)

Warnings

When you are changing your sound by changing the shape of the mouth ensure the shape of **the** mouth does not impair the mode.

The Palate

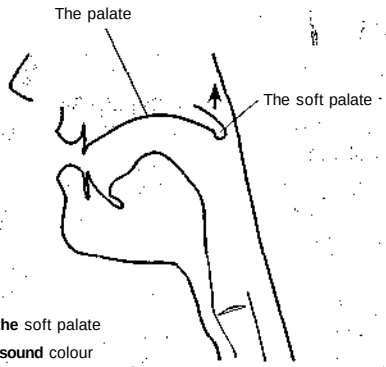
When I say palate, I mean the soft palate - the velum palatinum that ends in the uvula. The soft palate is the furthermost part of the ceiling of the oral cavity. When the soft palate is relaxed, it droops and nearly touches the tongue. You can usually feel the soft palate by widening the nos¬trils.

Raising the palate

Contracting the soft palate is known as raising the palate. It becomes extended like a sail. If you raise the palate the vocal tract becomes larger and the sound colour darkens. When raising the palate you automatically lower the larynx. This contributes to the darkening. ^ 78a

The palate can be raised by:

- pretending that you are inhaling for a yawn
- smelling something with wide open nostrils



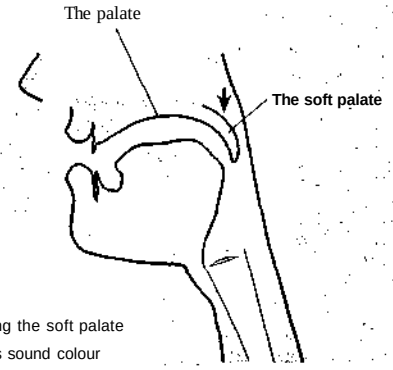
Raising the soft palate **darkens sound** colour

Lowering the palate

If you do not raise the palate it is, by definition, lowered. The soft palate is normally relaxed, drooped, and almost touching the tongue. This way the vocal tract becomes smaller and the sound colour lighter. With a lowered palate the.lar-ynx is usually raised. This contributes to lightening the sound colour, fig 78b

Lower the palate by:

- pretending that you are asleep or otherwise relaxed
- avoiding making any effort
- pretending you are lazy when singing



Lowering the soft palate lightens sound colour

Exercising raising and lowering

Become familiar with the difference in sound between the raised, and the lowered palate, so you can do it at will.

Practise singing with a raised palate on single notes and then on scales.
Practise singing with a lowered palate on single notes and then on scales. (3* 12

Go through a whole song with a raised and then a lowered palate.

A singer should be able to choose a mode irre¬spective of the position of the palate. To do this you should practise each mode with a raised and lowered palate. Remember to respect the limita¬tions of the modes with regard to the position of the palate. For example, remember that you need a lot of control to raise the palate in Belting.

Practise soft closure Neutral with a lowered and raised palate
Practise compressed Neutral with a lowered and raised palate
Practise Curbing with a lowered and raised palate
Practise Overdrive with a lowered and raised palate
Practise Belting with a lowered and raised palate. Remember that you need a lot of control to raise the palate in Belting

Warnings

When you are changing sound by changing the palate position ensure it does not impede the mode.

The Nasal Passage

Nasality

Some singers use the nasal cavity (nasal fossae) to affect sound colour. This may be done by open¬ing the nasal passage with the uvula. The nasal passage opens to different degrees for speaking and singing in various languages.

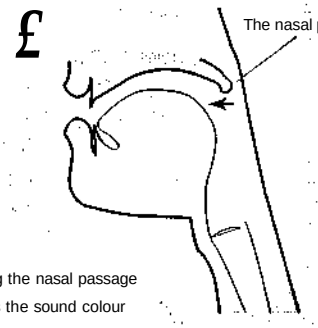
When the nasal passage is open and the tongue is not blocking the mouth, the sound comes out of the nose as well as the mouth and assumes a more nasal character. This is referred to as a 'nasal' sound. How much the sound should be nasalised is an artistic choice - in other words how much the nasal passage should be opened. Some singers are famous for nasalisation, like Elvis Presley.

Opening the nasal passage

When you hum or say NG, M, and N the nasal passage is opened sending the sound through the nose and making it nasal.
@79a

Practise opening the nasal passage by:

- saying NG, M, or N ,']
- humming



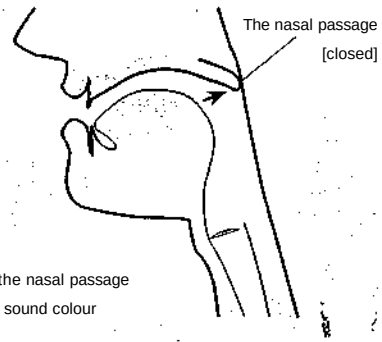
Opening the nasal passage lightens the sound colour

Closing the nasal passage

If you close the nasal passage the sound comes out the mouth and not the nose. When the nasal passage is closed the sound becomes darker and more powerful. A closed nasal passage is part of the sound colour ideal in classical singing. ^ 79b

Practise closing the nasal passage by:

- imagining that you are smelling something foul. Speak while maintaining this closure - it may sound as if you have a cold
- singing while holding your nose. By doing this most singers close the nasal passage to avoid the sound getting stuck in the nose



Closing the nasal passage darkens sound colour

Finding nasality

Learn to feel whether the nasal passage is open or closed while you sing. If you are in doubt try holding your nose while you sing.

- If the sound is stuck it is nasal. The nasal passage is open and the tongue is blocking the mouth so the sound can only come out through the nose
- If the sound is not stuck but changes in sound colour, even slightly, the nasal passage is open. The sound is coming out through the mouth as well as the nose and is partially nasalised g& 79c
- If the sound is not stuck and there is no change in the sound colour it is oral. The nasal passage is closed and the sound only comes out of the mouth

Exercising nasalisation

Become familiar with the difference in sound between an open and closed nasal passage and make sure you can open and close at will.

Practise singing with an open nasal passage on single notes and then on scales.
Practise singing with a closed nasal passage on single notes and then on scales. @ 13

Go through a whole song with an open and then a closed nasal passage.

A singer should be able to choose a mode irrespective of the state of the nasal passage. To do this you should practise each mode with an open and closed nasal passage. Remember to respect the limitations of the modes with regard to the nasal passage. For example, remember you need a lot of control to close the nasal passage in Belting.

Practise soft closure Neutral with an open and closed nasal passage
Practise compressed Neutral with an open and closed nasal passage
Practise Curbing with an open and closed nasal passage
Practise Overdrive with an open and closed nasal passage
Practise Belting with an open and closed nasal passage. Remember that you need a lot of control to close the nasal passage in Belting

Warnings

When you are changing your sound with the nasal passage ensure the position does not impede the mode.

List of sound colours

	Sound colour	Name
Large vocal tract	darker sound	
Small vocal tract	lighter sound	
epiglottis funnel		
upright epiglottis	darker sound	Projection
twanged epiglottis	lighter sound	Twang
Larynx		
lowered	darker sound	
raised	lighter sound	
Tongue		
compressed	darker sound	
broad	lighter sound	
Shape of the mouth		
relaxed corners of the mouth	darker sound	
extended corners of the mouth	lighter sound	Smile
Palate		
raised	darker sound	
lowered	lighter sound	
Nasal passage		
closed	darker sound	Oral
open	lighter sound	Nasal

Darkest sounds
- Projected epiglottis funnel
- Lowered larynx
- Compressed tongue
- Relaxed corners of the mouth
- Raised palate
- Closed nasal passage

Lightest sounds
- Twanged epiglottis horn
- Raised larynx
- Broad tongue
- Extended corners of the mouth
- Lowered palate
- Open nasal passage

Microphone Technique

The microphone also plays a part in creating sound colour. Firstly there is the microphone's own sound and secondly the microphone tech¬nique of the singer. It also will enable you to be heard at different volumes and different sound to what you can acoustically. It is, however, impor¬tant to realise that a microphone cannot save any¬thing or anyone. If you are singing incorrectly it can not be corrected by using a microphone. It is essential that your singing technique is correct before you approach a microphone.

There are certain ideals of sound colour connect¬ed to the microphone. By convention certain things sound better through a microphone than they do acoustically. For example, quiet and very breathy singing can easily be heard and sounds good through a microphone but not acoustically. On the other hand a very projected sound is less suited for a microphone but works well acoustically.

Pronunciation and the microphone

If your pronunciation is distinct and powerful the words are easy to hear and understand acousti¬cally. The same applies in the theatre where microphones are placed at a distance from the performers. However when you pronounce in such a way lot of air is puffed out during the words, these puffing sounds can be a problem with a microphone as they sound like small explo¬sions if it is held close to the mouth. (S) 80a

Changing consonants

When you sing with the microphone close to your mouth you must be careful with the puffing sounds on certain consonants. You must get used to changing 'unvoiced' consonants into 'voiced' con¬sonants which are just as easy to understand and do not cause problems. Unvoiced consonants are produced without the vocal cords, for instance, the 's' when you say 'sure'. Voiced consonants are produced with the vocal cords, for instance, the 's' when you say 'treasure' (you can feel your throat vibrate when you make the voiced conso¬nant). @ 80b

Consonant	as in	is changed into	as in
P [p]	'pad'	B [b]	'bad'
T [t]	'tomb'	D [d]	'doom'
K f k J	'class'	G [g j	'glass'
F [f]	'fast'	V [v]	'vast'
S [s]	'soon'	z [z j	'zoom'
CH [tf]	'cheat'	G [d_3]	'gent'
TH [ḍ]	'theme'	TH [S]	'the'
Sf/J	'sure'	*sis]*	'treasure'

Combinations of consonants also need to be changed to avoid puffing sounds. For example PS [ps] as in 'taps' is changed into BZ [bz] as in 'tabs'.

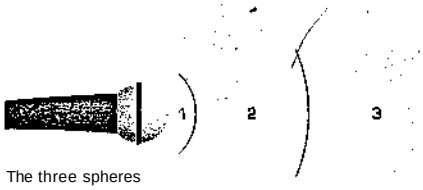
Practise new consonants

Practise with a microphone and listen how the puffing sounds of the consonants sound like explosions. Get used to changing consonants to avoid puffing sounds and notice how the text actu¬ally becomes clearer from these minor changes in pronunciation.

Microphone spheres

A microphone is surrounded by three spheres. The spheres are comparatively small and it is essential to stay within them if the sound is to be consistent. If you move in and out of these spheres without control and without artistic rea¬son, the sound will not be even. Certain spheres of the microphone are best suited to certain sounds.

You may benefit from knowing convention on the use of microphones but remember that ANY-



The three spheres
of a microphone help you to achieve different sounds

THING you choose to do or not to do can be an artistic choice. Do not be dictated by convention.

Sphere 1 - Bass boost

The sphere closest to the microphone, sphere 1, gives a bass boost. Low frequencies are amplified giving the voice body and nearness - even to a frail voice that would scarcely be audible acoustically. @ 81a

If you add a lot of air to your voice in this sphere the high overtones blend with the bass boost and produce a rich, broad sound.

Feel how far away you can move the microphone without leaving sphere 1. Try to make your voice breathy (remember only in Neutral) and hear how it sounds. Try out various modes and sound colours and find which ones you like, and which suits you.

Sphere 2 - Actual microphone sphere

Sphere 2 is where the majority of the work with a microphone is done. In this sphere all sound is amplified all the time but the power is governed by how far from the microphone the mouth is. If you sing powerfully you must pull back a little from the microphone to avoid a distorted sound. If you sing less powerfully you must be closer. @ 81b

Practise singing a whole song in sphere 2. Do not bring the microphone so close that you enter sphere 1 and do not move the microphone so far away that you enter sphere 3 (see below). Continually adjust the distance from the microphone so the amplified sound has an even volume, regardless of how powerfully you sing.

Sphere 3 - Acoustic sound

Hold the microphone far away so that you hear your voice as acoustic rather than amplified. Now slowly bring the microphone closer and notice where you begin to hear more amplified sound than acoustic sound. This is where you are leaving sphere 3 and entering sphere 2. Singing in sphere 3 does give you some amplified sound, ranging from a little to none at all. When there is no amplified sound left the microphone is so far away that the sound can only be heard acoustically. It is useful to be familiar with sphere 3 if you want to bring an acoustic element into a song. ^ 81c

Hold the microphone as far away from you as possible, bring it closer while you sing, and find the place where sphere 3 begins. Also become familiar with the border between sphere 2 and sphere 3.

Start in sphere 2 and slowly pull the the microphone away. Practise singing more powerfully the closer you get to sphere 3 so that you do not to notice the border between sphere 2 and 3.

Now you can use all three spheres in a song. Practise how to obtain the exact sounds you want through the microphone.

Become familiar with your volumes

It is useful and important to be aware of just how powerfully you sing. You might wish to link your volume to your support values to have a personalised measure of how powerfully you sing and how much strength it requires (see Volume, page 58). The more conscious you are of volume the easier it becomes to work with a microphone.

It is not complicated to develop good microphone technique, it just requires plenty of practice in adjusting the microphone to the volume and desired sound.

Test the spheres on new microphones

Every time you work with a new microphone you must test where the spheres are. Spheres and sound colours may vary from microphone to microphone.

Introduction to Effects

The techniques in this chapter apply to both singers and wind instrument players.

Effects are usually indispensable for a solo career in rhythmic music. Effects are those sounds that are not connected to melody and text, sounds that underline the singer's expression or style. For example:

- Distortion *(full or* half)
- Rattle
- Growl
- Vocal breaks
- Air added to the voice
- Screams (in Neutral, in Belting, combined, and distorted)
- Hoarse attacks and creaks
- Vibrato
- Ornamentation technique

Effects must SOUND as if they are spontaneous, for example, as though the singer has made a huge emotional outcry without any consideration for the voice. In every day life these effects often occur without you having control over them but for a professional singer they must be based on the correct use of the voice to avoid damage and to enable the singer to repeat the effect concert after concert.

Effects are produced in the vocal tract

Many singers have worn their voices by producing effects in an unhealthy manner. It is possible to produce effects so that they are not wearing. You should always follow the three basic principles of singing, use the modes correctly, and control the techniques for the specific effects.

The theory behind producing healthy effects is to put the main part of the work on the vocal tract. This reduces the risk of straining or damaging the voice. Effects, just like sound colours, are made in the vocal tract.

Effects have to be designed

Effects often begin by chance. A singer in a studio happens to make some special sounds (noises, in fact) that seem expressive and suited to the mood of a song. S/He decides to keep the sound as an effect. But when the singer later goes on tour s/he faces problems. Either s/he cannot find it again or in trying to recreate the effect s/he becomes hoarse.

The effect now has to be designed. In other words, the singer has to find a way to reproduce that sound without causing irritation or wear on the voice. Once the singer *can* achieve this s/he can repeat the sound night after night without wor¬rying about the voice.

A case story

A heavy rock singer had huge success with his new CD and was about to embark on a tour of 37 concerts in 45 days. However he was worried because during the recording of the album he had become hoarse, first from an illness and then from some technically diffi¬cult songs. This had made him sound hoarse on the CD, which was not his normal sound. So now he need¬ed to recreate this hoarse sound for the concerts and, in trying, had truly become hoarse and was unable to perform.

At first we worked on the constrictions that he had developed in trying to sing with a hoarse voice. Once they disappeared his voice was healthy again. Then we worked on the technical difficulties he had with the songs so that he could perform them without prob¬lems. We found the exact position for the modes, estab¬lished *the* 'bite' in Overdrive, and practised further twanging the epiglottis funnel in Belting. Once he was in control we worked on finding and practising a healthy distortion so that the songs had the exact hoarse sound. Once we accomplished this, together with his control of the modes, he was able to complete the demanding tour without problems. He has not had any problems since.

General directions

Singers look different on the outside and are different on the inside too. What one singer has to do for an effect may be completely different to what another must do. Consequently every effect must be tailored to the singer, taking into account the anatomy, physiology, shape, energy level, and temperament.

On the basis of many years of experience with sometimes very strange effects I have assembled a number of general directions, that I will go over in the following sections.

Effects are technically demanding. It is essential you are in control of the basic principles of singing before you even CONSIDER working with effects (see The Three Basic Principles, page 60). After that you must be able to control the modes, which are the foundations for the effects as most effects are combined with a mode.

As always when you work with the voice - and especially when you work with effects - it is essential you are aware of its healthy limits. If you become hoarse, stop working until the voice is well again. It can be difficult and unhealthy for the voice to practise while hoarse as it reacts differently to how it normally would. As long as the voice is well you can practise and experiment.

A main rule that cannot be stressed enough is that singing must NEVER hurt or feel uncomfortable. If something feels wrong or gives discomfort your voice is trying to tell you that you are doing something *wrong.* Respect these signals! Remember:

- singing must always feel comfortable
- the technique must have the intended effect right away, otherwise the training is not being done correctly
- if an exercise hurts, feels uncomfortable, or feels wrong, it IS wrong. You are the one who knows how it feels, so trust your feelings

Always use the same procedure when working with elfects

- Control the basic principles of singing
- Then control the mode
- Then control the sound colour
- Finally control the effect

Effects demand energy

It usually costs extra energy to add effects to sound. Often the volume decreases when an effect is added but this is compensated by the impression an effect gives of more energy and stronger expression. If you want to avoid the drop in volume, you have to change mode and use more energy. Accept that in most cases it is not possible to be as loud when an effect is being used.

Emotions must be a part

The effects must be specifically designed for the song, the singer's energy level, temperament, and expression. It is usually not enough that a singer has the technical ability to produce an effect healthily. If s/he does not have the emotional experience, courage, or temperament to make the listener sense authenticity behind the effect it will sound shallow and unconvincing. For instance, I have met singers who wanted to learn how to make a distortion because they thought it sounded nice, but they could not produce the emotions that should underlie it. Although they learnt how to produce the effect, without the authenticity, the energy, or the emotion it never sounded anything other than shallow and unconvincing.

Distortion

The techniques in this chapter apply to both singers and wind instrument players.

Distortion is a 'noise', an effect that can contain a range of emotions from aggression to devotion. The effect is often used in connection with a note. The more you distort the sound, the more 'noise' and the less note there is.

Full distortion (100% distortion) is only 'noise' and no note. Distortion is a mixture of 'noise' and note. Distortion can be used in all modes. They are subject to the same limitations as the modes in terms of the parts of the voice used, volumes, sound colours, and vowels.

Unintentional distortion

An unintentional distortion can appear if the mode is not positioned correctly. It might sound Captivating and may appear without discomfort but it should be avoided. Persistent use can blur the boundaries between the modes. If the unintentional distortion is used persistently it can result in the distortion becoming permanent. To return to singing WITHOUT distortion takes a great deal of effort in relearning the exact positions of the modes.

By definition a healthy distortion is one that is worked into a mode and can be introduced or removed at will without discomfort.

A case *story*

A talented soul singer had been singing for many years but had developed problems in separating the modes. They had literally melted into one another and she lost her power and clarity.

It turned out she had nurtured a distortion which had suddenly appeared on her voice and which she now was unable to get rid *of. It* had appeared because she **had been** singing in Overdrive and Belting without releasing die 'hold[1] of Curbing. She had consequently lost her 'bite[1] in Overdrive and the twanged epiglottis funnel in Belting so that neither Overdrive nor Belting were clear or safe. This was why she lost her clarity and power.

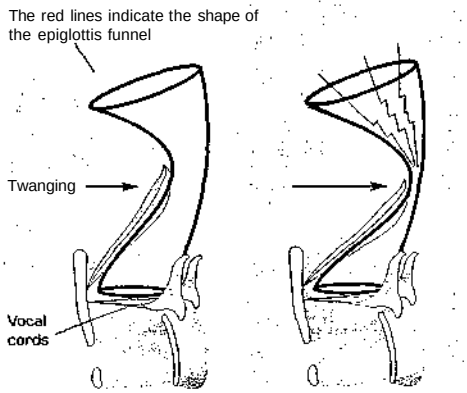
We started by finding the 'bite' for Overdrive and then the twanged epiglottis funnel in Belting to restore the exact positions of the modes. After this we retrained Curbing by means of the 'hold' and finally Neutral by keeping a loose jaw. Whenever the unintentional distortion reappeared we returned to concentrating on the exact position of the modes.

After a month of hard work her modes were healthy again and we practised the healthy way to make distortion. We worked on twanging the epiglottis funnel until she located the desired amount of distortion. After that we worked on the shape of the vocal tract until the distortion adopted the sound colour she wanted.

By avoiding the unintentional distortion and using a controlled, healthy effect she was able to use rough effects without problems.

Creating intentional distortion

The basis for distortion is twanging the epiglottis funnel. This creates a 'noise'. It may feel as though the back of the tongue is pulled backwards and upwards, as if attempting to touch the back wall as high up as possible. The noise comes from the vocal tract and not the vocal cords so there is less risk of damaging the voice. It may tickle a little in the palate or ears at first but this is

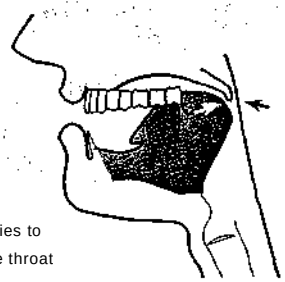


To distort, twang the epiglottis funnel as much as possible.

quite harmless. However make sure that it does NOT tinckle or irritate the vocal cords.

Once you have created the 'noise' add a note to create the distorted effect. This will sound as if 'noise' and note are mixed together (and as if you are about to ruin your voice!). The balance of note and noise is an artistic choice. The singer should feel comfortable and the note should not be hin¬dered. It is essential to keep the underlying mode healthy - even during the most violent distortion - as it is the correctness of the mode that secures against misuse of the voice. Losing control of the mode can be very uncomfortable. In fact you often see singers coughing with tears pouring out of their eyes when the mode is lost. At times like these you should be in no doubt that the distortion is incorrect.

When you add distortion you must realise that more support is needed even though the volume usually drops.



Possible sensation:
it can feel like the back of the tounge tries to reach the back *of* the throat

To make the distortion easier you must twang the epiglottis funnel as much as possible. It is helpful to make the whole vocal tract small. By definition, a small vocal tract means a lighter sound colour. Therefore, in the beginning, accept that distortion is reserved for light sound colours only.

Twanging the epiglottis tunnel

To create a distortion you must twang the epiglot¬tis funnel. This makes the opening of vocal tract smaller because the epiglottis is brought closer to the arytenoid cartilages (see diagram). The more twanged the epiglottis, the smaller the opening of the vocal tract and the more snarling the sound. ©75a

It is easiest to find the twanged epiglottis funnel by practising the following sounds:

- an infant crying
- a duck quacking
- making *your voice* grating and witch-like
- speaking like someone who has an evil plan
- imitating a diving aeroplane
- making the sound of driving a toy car
- imitating the sound of a very loud ambulance siren
- saying 'Meow' (without the U-sound) like a cat

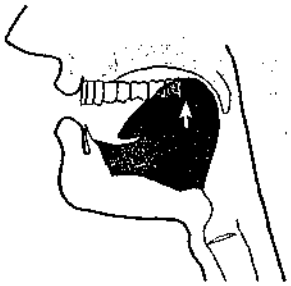
If you twang the epiglottis funnel even further **a** noise will emerge. This is the noise used in dis¬tortion, g 38a

Shaping the vocal tract (or distortion

- Twang the epiglottis funnel
- Raise the larynx
- Pull the back of the tongue upwards and back¬wards so that it almost touches high up the back wall of the throat
- Smile with the mouth wide open
- Lower the palate

Positioning the tongue for distortion

When distorting, the epiglottis funnel is twanged - which is also part of making the sound colour light and sharp. It may feel as if the back of the tongue is positioned behind the molars in the upper part



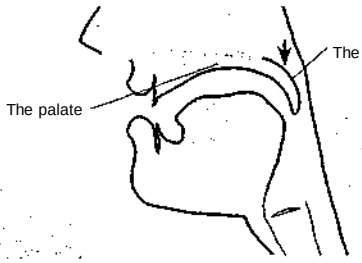
Possible sensation: the back of the tounge is behind **the** upper molars

of the mouth. From there the tongue must be arched upwards towards the palate as if trying to make the back of the tongue and the back *wall* meet. Feel how the space between tongue and palate becomes smaller as you press the tongue backwards and upwards. The smaller the space between palate, back wall, and tongue, the more distorted the sound becomes. It may feel as if you are mashing a pea on the back wall. The higher up you attempt to 'place the pea' the safer the dis¬tortion. This position is to be maintained during distortion in both the high and low part of the voice.

When the tongue is kept in this position it prer vents the epiglottis funnel from losing the twang and the larynx from lowering.

Being aware ol the palate and larynx

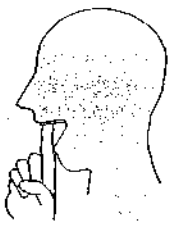
When distorting *it is* important to make sure the palate is not raised and the larynx is not lowered, because both these movements potentiate losing the twang of the epiglottis *funnel.* During distortion you may feel like making more room in the vocal tract - but be careful NOT to! If the larynx is low¬ered when distorting you will usually lose the dis¬tortion and this might hurt. Distortion works best when there is less room in the back of the mouth. Finally, ensure the throat is open in order to avoid constrictions around the vocal cords (see The Three Basic Principles, page 60).



'**Keep the** palate lowered.
If raised the twanging of the funnel is usually lost

Finding the noise

Locate distortion by finding the 'bite' in Overdrive. Smile with a closed mouth. Drop the jaw but keep the upper lip in the same place. Make sure the lower jaw is further inwards than the upper jaw and that there is room for a finger between the jaws. The jaw must be positioned as if you are bit¬ing into a large apple. Remove the apple, keep the 'bite', but do not bite together. Notice that it may feel as if you tighten slightly in the jaw-joint but not in the lower jaw. Raise the larynx as much as possible and push the back of the tongue back¬wards and upwards against the back wall. Twang the epiglottis funnel, apply a good amount of sup¬port, and try to produce a 'noise' solely in the oral cavity. (S) 38a(1)



'Bite'

Say 'aiiiiiee' like when you are annoyed. Make it sound as close as possible to the natural sound you make when you are deeply annoyed. Do not worry if it does not sound much like a distortion at this point. Listen to this TINY natural distortion, which appears spontaneously when you are annoyed. Try to cultivate this distortion without adding a note to it. Notice the great amount of support required. S) 38a(2)

The 'bite' is a tool to assist you in locating distor¬tion but once you can control distortion you no longer need it.

The more you twang the epiglottis funnel and raise the larynx the safer the distortion. To prac¬tise sing a note, without distortion, in Neutral on a very flattened, light, and quiet 'GE' in a pleasant pitch. Gradually add a slight distortion to it. In other words, transform the 'GE' without distortion to a slightly distorted 'GE' (as in aiiiiiee). If the dis¬torted note feels even a little uncomfortable, tick¬les, or hurts, the epiglottis funnel is not twanged enough and the larynx is probably too low. Stop immediately and start again with a more twanged epiglottis funnel and a more raised larynx. Take note of exactly what you have to do to make this transition from a small clear note to a distorted one. Try to exaggerate it and at the same time become familiar with exactly where the distortion is placed and how it feels. Make sure the tongue only moves backwards to create the distortion and NOT downwards. Make sure the sound colour does not change whilst distorting. The sound colour must never become darker. (5& 38a(3)

Later, once you can control distortion, experiment by colouring it a little darker. You should only do this if you can control distortion without problems and if you know your voice so well that you are immediately aware the moment you exceed its healthy limits. The positioning of the vocal tract for distortion is similar to the position for light sound colours. Making the sound colour darker, there¬fore, goes against producing the distortion and that is why you have to be careful.

Finding the noise through images and sensations

Remember that these images and sensations are only meant as a help. If you do not respond to them immediately, forget them. Do not confuse them with what is actually happening!

- Imagine the epiglottis funnel is completely squeezed together when distorting
- Imagine the squeezing together of the back of the tongue, the back wall, and the palate is placed up behind the eyes

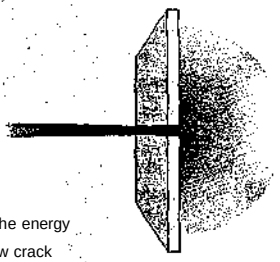
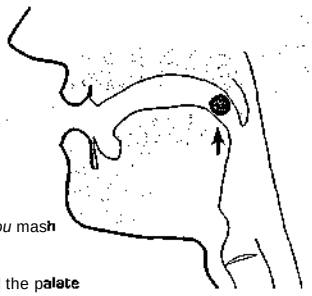


Image: Release the energy through a narrow crack

- Imagine you have a lot of energy inside you. Store up the energy and release it through a small crack between two immobile iron walls. Imagine that one iron wall is formed by the back of the tongue and the other by the palate and the back wall
- Imagine you are mashing a pea with the back of the tongue on the back wall. The higher you place the pea the safer the distortion



Imagine that *you* mash a pea between the tongue and the palate

- Imagine you are swallowing or throwing up. Feel the twanged epiglottis funnel, the high-positioned larynx, the position of the uvula, and feel the larynx press against the back of the tongue high up in the oral cavity
- Imagine you have a hair tangled around the uvula and that you attempt to remove it with the back of the tongue
- Extend the corners of the mouth sideways and 'tie them around the neck'. Also extend the upper lip and open the mouth as much as pos¬sible and say 'aiiiiiee' as when you are annoyed
- Imagine you extend the corners of the mouth and the back wall sideways so much that it is like you turn the oral cavity inside out, just like a sock

Finding tho noise through sound

In distortion the sound colour usually gets lighter because the vocal tract gets smaller. The more you twang the epiglottis funnel and raise the lar¬ynx the smaller the vocal trad and therefore the lighter the sound colour and the more 'noise'.

You can find distortion through sound by imitating: © **38a(4)**

- an old, rattling, evil troll
- someone being strangled
- a grating witch - but without a note
- laughing like someone who has an evil plan - again without a note
- the sound of a diving aeroplane
- the sound of a car that brakes or turns around a corner at high speed - without too much note
- a spitting cat
- a hissing dragon

Add a mode

When you control the noise you should decide how much of it you want. If *you want* less distor¬tion you should lessen the twang of the epiglottis funnel. It may feel as though the pressure between the back of the tongue, the palate, and the backwall is not as hard (the pea should be less mashed).

Then add a note so the 'noise' and note are mixed. It is IMPORTANT to maintain the mode underlying the distortion. The basis for a healthy distortion is exact positioning and correct use of the mode. Practice adding and removing a distor¬tion without it influencing the mode. Sing an AH (as in far) and change between note with distor¬tion and note without distortion. Practise the other three modes with distortion. @ 38b

It requires great control to be able to create a small distortion - the smaller the distortion (the lesser the twang of the epiglottis funnel) the more control required. The smaller distortion you attempt the easier it is to lose the twang of the epiglottis funnel or to give too much room in the oral cavity. If this happens the distortion fails and it feels uncomfortable.

Distortion and the modes

You should start by practising distortion in the mode you find easiest. Remember to keep the exact position of the mode when distortion is added. It is the mode that determines how the dis¬tortion sounds, how it must be treated, and which sound colours, volumes, vowels, and parts of the voice you can use.

Distortion in Neutral

Distortion in soft closure Neutral

Distortion in soft closure Neutral gives a quiet vol¬ume and a relatively gentle effect. It is often used as an isolated effect in the high part of the voice with a stow laryngeal vibrato (see Vibrato, page 194), and may have a very suffering sound, as if the singer is about to give up. (-a 38e(1)

singers who use/used distortion in soft closure Neutral

David Bowie and Janis Joplin.

Distortion in compressed Neutral

Distortion in compressed Neutral will give a more non-breathy sound, like a howl. The volume can vary from quiet to loud, gjj 38e(2)

Singers who use distortion in compressed Neutral

James Brown, Ray Charles, David Coverdale, Nina Hagen, Chris Rea, David Lee Roth, Wilson Pickett, Steven Tyler (Aerosmith), Stevie Wonder, and Angus Young (AC/DC).

Distortion in Curbing

Distortion is most commonly used in Curbing. It is often used with text. The volume can be loud or less powerful. The more distortion added the more worn the singers voice sounds. <& 38e(3)

singers who use/used distortion in Curbing

Bryan Adams, Michael Bolton, Joe Cocker, Alice Cooper, Terence Trent D'Arby, Melissa Etheridge, Noddy Holder (Slade), Billy Idol, Dan McCafferty (Nazareth), Paul McCartney, Michael McDonald, Freddie Mercury, Jim Morrison, Alanah Myles, Otis Redding, Rod Stewart, Zak Tell (Clawfinger), Bonnie Tyler, Tom Waits, and Wilson Pickett.

Distortion in Overdrive

Distortion in Overdrive is only obtainable at loud volumes and is a very powerful effect. It may sound as if the singer is very angry or very upset. It-is often used as an isolated effect *or on* select¬ ed words. (S| 38e(4)

Singers who use distortion in Overdrive

Mama Cass, Ray Charles, David Coverdale, Etta James, James Hetfield (Metallica), John Kay (Steppenwolf), Skin Sylvia Massy (Skunk Anansie), Van Morrison, Paul McCartney, Little Richard, Bruce Springsteen, CF Turner (Bachman Turner Overdrive), Tina Turner, Tom Waits, and Johnny Winter.

Distortion in Belting

Distortion in Belting is also only possible at loud volumes and is a very aggressive effect. It might sound as if the singer is screaming and about to be strangled at the same time.gj 38e(5)

singers who use/used distortion in Belting

Sebastian Bach (Skid *row),* James Brown, Chris Cornell (Soundgarden), Ronnie James Dio, Bob Dylan, Melissa Etheridge, Tramaine Hawkins, Etta James, Janis Jopiin, 'Baby Jean" Kennedy), Skin Sylvia Massy (Skunk Anansie), Freddie *Mercury, Tina* Turner, and Steven Tyler (Aerosmith).

A case story

A death metal singer had problems getting sufficient power and roughness in certain screams and distor¬ tions while recording in a studio. His voice had become hoarse from *the* repeated attempts of adding more volume.

As his basic technique for support and avoiding constrictions was good we went straight to correcting the modes, so that the positions were as exact as possi¬ ble. In Overdrive he had to establish the 'bite' more thoroughly and in Belting the had to twang the epiglot¬ tis funnel more to obtain a sharper, more powerful sound. In Curbing, his 'hold' was too strenuous and therefore his singing sounded stifled. When the 'hold' was lessened the sound became clearer and louder and the hoarseness disappeared. Then we practised Belting in such a high pitch that it became screams. After this we practised healthy distortion.

With the modes positioned exactly the effects (screams and distortions} became very powerful both in volume and character. In the end he was able to make such violent screams and distortions that he was quite shocked and asked me and the producer if it was too much. He recorded the rest of the CD without fur¬ ther problems and is known today for his violently dis¬ torted screams.

Finding full distortion

In full distortion the epiglottis funnel is more twanged than in half distortion. Remember to maintain the positioning of the vocal tract regard¬less of the amount of distortion. Sing a note, with¬out distortion, in Neutral on a very flattened, light, and quiet AH (as in far) and gradually add a slight distortion to it. If the distorted note feels even a lit¬tle uncomfortable, tickles, or hurts, the epiglottis funnel is not twanged enough and the larynx is probably too low. Stop immediately and start again with a more twanged epiglottis funnel and a more raised larynx.

Now exaggerate this distortion and stop singing the clear note so that there is only noise. This will require a great amount of support. It may feel like the epiglottis funnel is being completely squeezed together. This is a full distortion - which is only 'noise' and no tone. The full distortion is often used as an isolated effect in songs. @ 39

singers who use/used lull-distortion

James Brown, Joe Cocker, Terence Trent D'Arby, Janis Joplin, Bruce Springsteen, Tina Tjjrner, Steven Tyler (Aerosmith), and Tom Waits. "

Exercises for distortion

Locate the 'noise' by twanging the epiglottis fun¬nel and building up a pressure between the back of the tongue, the palate, and the back wall. It may feel like you are stopping the note with the back of the tongue. Try to produce a small distortion with¬out a note. <& 38a(1)

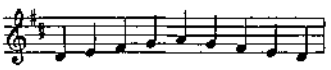
When you have located this try to increase the distortion by saying 'aiiiiiee' on a pleasant low note in Neutral in a very flattened, light, and quiet AH (as in far). Maintain the mode and note. ^ 38a(2)

When you can control this start again in Neutral on the note bb1(for women) or **d** (for men) and on a very flattened, light, and quiet AH (as in far). Make sure the note feels the same way and has the same sound, irrespective of whether the dis¬tortion is added. Now alternate adding distortion to the note and removing it. Later practise all the modes with distortion. <@j 38b

Gradually make the distortion smaller by twanging the epiglottis funnel less and less. This may feel as though you are reducing the pressure between the back of the tongue, the palate, and the back wall. It requires much more control and support energy to be able to use a very small amount of distortion. Become familiar with just how little a distortion you can add to the various modes. Q 38c

Then try to add distortion to a scale up and down through five notes. Add the same amount of dis¬tortion on all the notes. After that try adding dis¬tortion to selected notes and repeat the exercise begining half a note higher each time. <g 38d

Practise distortion in all the modes. Use the mode

A fifth scale 

and vowel you find easiest but at first avoid vow¬els that lower the back of the tongue such as OH (as in so), O (as in woman), and U (as in you). Make sure the position of the mode is correct before distortion is added. The distortion must not change the mode in any way - the rules of each mode must be followed at all times. Repeat the exercise begining half a note higher each time and be careful not to sing in too high a pitch for Overdrive (especially women), ^a 38e

Add distortion to a phrase where you think it suits the mood and expression. Try to add the distortion onto various vowels but avoid OH (as in so), O (as in woman), and U (as in you) at first, gi) 38f

Once you have perfected distortion practise changing between the modes and adding distor¬tion, for example, from soft closure Neutral with

distortion to Overdrive with distortion/Remember to follow the rules of modes (see Transitions between the modes, page 135). This is very diffi¬ cult and technically demanding so you should only experiment if you are in full control of the modes and distortion, know the basic principles for using the voice correctly, and can feel the instant you exceed its healthy limits, (ffi) 38g

Now try to exaggerate the distortion and stop singing the note. This is full distortion. Practise going from distortion to full distortion and back again. If it feels uncomfortable when you stop the note and to go into full distortion it is usually because you have impaired the mode with a con¬ striction (see The Three Basic Principles, page 60). @39

Warnings

If any of the exercises feel uncomfortable or tick¬ le it is usually because the underlying mode is not held correctly. It may feel like you are producing the distortion too far down in the throat. Practise the exercises without distortion until you are in full control of the modes. Then add the distortion and keep the exact position of the modes.

- Make sure the epiglottis funnel is always twanged while distorting
- Make sure the larynx is always raised while dis¬ torting
- Be careful at first not to raise the palate as it might lower the larynx and impair the twang of the epiglottis funnel
- The higher you sing the more you have to sup¬ port to avoid constrictions or vocal breaks
- The higher you sing the easier it becomes if you twang the vowels - for example, changing or directing them towards I (as in sit) or A (as in and)
- In the beginning avoid dark sound colours as they might impair the twang of the epiglottis funnel. This might hurt and damage the voice

Unintentional distortion

If an unintentional distortion appears on the notes it might be because:

- the mode is not correctly positioned
- you are trying to sing in Curbing with too loud a volume
- the epiglottis funnel is not sufficiently twanged
- the larynx is not positioned high enough
- you have not been attentive to a constriction that has been triggered by muscular tensions in the jaw or lips or because of insufficient support
- you have lost the 'bite' in Overdrive or the twanged epiglottis funnel in Belting and the voice is about to lose the metallic sound
- you have raised the palate so much that the lar¬ ynx has lowered. This impairs a correct distor¬ tion
- you are singing in Belting, Overdrive, or Curbing in too quiet a volume

Rattle

Once you can control distortion you can experiment with adding special sounds like a rattle to the distortion. You can, for example, use the position of the tongue or the palate, or even saliva to produce a rattle. A rattle can make a distortion more efficient.

Singers who use rattle
Joe Cocker, Ian Dury, Nina Hagen, and Percy Sledge.

Exercises in rattle

Gather a small amount of saliva and experiment by placing it in different places in the vocal tract and making it rattle. Place the saliva near the uvula as if you are gurgling.

Sing a note in a given mode and add distortion. Then add the rattle (the gurgling). Take care that the rattle does not change the mode or the distortion. (|D 40(1)

You can also make the uvula and the back tongue vibrate to create animal sounds - for example, a bird or a tiger. Try to make a rolling 'rrr' at the uvula. If you find it difficult, make snoring sounds and then keep the vibration while you breath out with support. Once you can control this rolling 'rrr', experiment with adding it to the distortion. Be careful that the extra effect does not change the mode or distortion. <J| 40(2)

You can also make the tongue and the soft palate vibrate creating the sound of a spitting cat. Try to say 'kkkrrr' or 'gggrrr' and feel how the tongue meets the palate. When you are in control of the 'kkkrrr' or 'gggrrr' sound, experiment with adding it to the distortion. This way the distortion feel as though it is placed further to the front. Be careful that this extra effect does not change the mode or the distortion. @ 40(3)

Warnings

As always in singing take care that the rattle does not in any way feel uncomfortable or hurt.

Growl

The techniques in this chapter apply to both singers and wind instrument players.

A growl is just like distortion, a 'noise'. It is an effect that can contain several different expres¬ sions often, but not always, in connection with aggression. Growl is used in traditional jazz and Death Metal - each in its own form. Growl often sounds like a rough distortion but a difference is that growl can not be used in the high part of the voice.

The vocal cords are sometimes called the 'true folds'. Above the cords are the 'false folds', also called the 'ventricular folds'. These usually do not produce sound as they are not covered by a MOVEABLE mucous membrane - it is the move- able mucous membranes covering of the vocal cods that produce sonorous sound. When the false folds are made to vibrate not having the moveable mucous membrane the sound is rough and irregular called a growl.

Growl must be produced with great accuracy to avoid misuse of the voice. The false folds usually take part in constrictions so involving them in sound-production is risky.

Singers who use/used growl

Louis Armstrong, LaVern Baker, James Brown, Whitney Houston, Michael Jackson, John Kay (Steppenwolf), David Lee Roth, Sly Stone, Yma Sumac, Tom Waits, and Johnny Winter.

Shaping the vocal tract for growl

When growling:

- twang the epiglottis funnel
- slightly raise the larynx in the beginning
- and pull the back of the tongue slightly back¬ wards and downwards

Positioning the tongue lor growl

In growl the epiglottis funnel must be twanged. The sensation of a growl is like the back of the tongue is pulled backwards and slightly down¬ wards into the throat - this might feel as though you are trying to 'swallow' your tongue. At the same time the larynx should be raised, so that is feels as if the back of the tongue and the larynx are trying to meet.

It is important you do not lose the twang of the epiglottis funnel when it feels like the tongue is pulled downwards into the throat - this will imme¬ diately cause discomfort, coughing, and may even wear the voice. So twang the epiglottis funnel and then 'swallow' the tongue.

Finding growl

Twang the epiglottis funnel, raise the larynx, and attempt to 'swallow' the tongue. Press the larynx and the back of the tongue slightly together and sing 'la la la' imitating Kermit from The Muppet Show (this is also called a cnoedle). Feel how a rough rattle often appears as you pull the tongue further backwards as if to be 'swallowed'. This rough rattle is a growl. Feel and maintain this feel¬ ing and make sure that it never feels uncomfort¬ able or ticklish. If it does, try to twang the epiglot¬ tis funnel more and raise the larynx more. It might be difficult to sense minor alterations in the posi- tion of the epiglottis funnel but in growling the slightest relaxation will feel very uncomfortable. If it does, stop and start again with a more twanged epiglottis funnel and a more raised larynx. fiR) **41a(1)**

Sing a note in compressed Neutral on the vowel AH (as in far) without growl. Gradually add growl

but make sure it does not feel uncomfortable, tick¬ le, or hurt. Notice exactly what you do in moving from the clear note to the growled one. Exaggerate what you do to obtain the growl and get familiar with where the growl is positioned and how it feels, *(g)* 41a(2)

You can make the sound colour of the growl dark¬ er by making more room in the oral cavity, for example by raising the palate. Be careful not to lose the twang of the epiglottis funnel. You must, as always, be sure to maintain an open throat to avoid constrictions (see The Three Basic Principles, page 60). If you forget the basic princi¬ ples while growling, it can feel very uncomfort¬ able. Usually you will start coughing as tears pour out your eyes. At times like these you should be in no doubt that the growl is incorrect. (^ 41a(3)

If the sound is supposed to be so growled that only the "noise" remains (as in death metal), stop singing the underlying note, twang the epiglottis funnel more (you can also use a full distortion), and lower the larynx carefully. This effect will be even more efficient if you combine it with sphere one of the microphone due to the bass boost (see microphone technique, page 166). You should only experiment with this if you can control growl without problems, are aware of the basic princi¬ ples of singing, and immediately know when you have exceeded the healthy limits of your voice.

Finding growl through images and sensations

- Imagine you are 'swallowing' your tongue, with¬ out losing the twang of the epiglottis funnel
- Imagine the larynx and tongue meet and stay stuck together
- Imagine you are about to swallow or throw up. Feel the high-positioned larynx, the position of the uvula, and how the larynx is pressed against the back tongue. Maintain this sensa¬ tion when growling
- It may feel as if you attempt to squeeze the sides on the lower surface of the tongue togeth- er

Findlng growl through sound

A growl is a dark, grumbling sound full of noise. The more you pull the tongue downwards, the more growl. If you lower the larynx at the same time you can get the dark sound which is used by many death metal singers. Remember to keep the twang of the epiglottis funnel.

If you ease the pressure between the back of the tongue and the larynx and twang a little less on the epiglottis funnel, the sound becomes lighter and the note clearer. This lighter growl is used by many jazz and soul singers.

You can try to find growl by imitating: @ 41b

- Kermit from The Muppet Show and then adding growl to the sound
- the way Louis Armstrong sang
- a scary monster
- and exaggerating a singer who croons
- a roaring lion
- the sound of an accelerating racing car

Growl and pitch

Growl is an effect almost solely used in the lower part of the voice. If you want asimilarsoundin the higher part of the voice it is better to use distor¬ tion. When singers sound as if they have added growl to a higher note, it is often just an acoustic illusion. They sing in a high pitch, then rapidly sing a low note with growl added, and then return to singing the song in the higher pitch. Ordinarily the ear does not perceive the octave leap and you get the impression that the note was growled in the high pitch. g§a 41e

Growl and volumes

The volume in growl can vary from very quiet (pp) to medium loud (mf). A growl can never become as loud as, for example, distortion in Overdrive.

Growl and vowels

All vowels can be used in growl. Because the pitch is low there is no need to alter the vowels. But be careful that the vowels that lower the back

of the tongue, such as U (as in you), O (as in woman), OH (as in so) and AH (as in far), do not impair the twang of the epiglottis funnel as this could feel uncomfortable.

Growl and sound colours

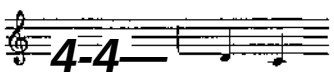
The sound colour of growl is often dark and hol¬low. The larger you make the vocal tract, the dark¬er the sound colour becomes. Many Death metal singers combine growl with a very dark sound colour by making the vocal tract like a large funnel so the sound becomes more hollow and booming. This sound is used together with the microphone's sphere 1 (see Microphone Technique, page 166) which adds bass boost and makes the sound colour yet darker. The sound colour becomes so dark and hollow that it is perceived as an octave lower than it really is. This can give a powerful and demonic effect.

Exercises for growl

Imitate Kermit from the Muppet Show. Gradually add growl. Practise adding and removing it. ^ 41a

Try to growl three notes up and down through a third. Start on aO (for women) or cO (for men). Move the exercise upwards and later downwards by half a note at a time. Make sure you do not sing in such a high pitch that the growl feels uncom¬fortable. Become familiar with how high and how low you can growl, (Sj 41c

A scale of three notes



Sing three notes up and down in a lower pitch. For each note alternate between a clear note and a growled one. S| 41 d

Notice which note you think is the easiest for you to growl on. Sing a phrase from a song where you think that a growl will be suitable. Omit a note from the melody and make a growl instead. Return to the melody. Practise making the change 'note-growl-note' so fast that it sounds natural, g) 41e

The less you twang the epiglottis funnel the more discreet the growl becomes. It requires great con¬trol to use a small growl. Practise just how small a growl you are able to add to a note.

Warnings

If any of the exercises feel uncomfortable, tickle, or scratch It is usually because you have lost the twang of the epiglottis funnel and you are produc¬ing the growl too far down in the throat. Twang the epiglottis funnel more, raise the larynx, 'swallow' the tongue, and maintain the pressure between the back of the tongue and the larynx.

- Make sure the epiglottis funnel is always more or less twanged
- Comply with the three basic principles of singing to avoid constrictions and damaging the voice
- Make sure not to create a 'hold' (as for curbing) while growling
- Be careful not to growl in too loud a volume as it might damage the voice (see Forcing, page 23)
- Take care not to growl in too high a pitch
- Take care not to lose the twang of the epiglottis funnel by using too dark a sound colour
- Take care not to lose the twang of the epiglottis funnel when using the vowels U (as in you), O (as in woman), OH (as in so), and AH (as in far)
- Make sure you do not lose the twang of the epiglottis funnel when raising the palate or low¬ering the larynx during the growl

Intentional Vocal Breaks

A vocal break is an abrupt change in sound when going from one mode to another. Used as an effect, a vocal break can contain many expres¬ sions such as surrender or devotion. Vocal breaks can be used in all the modes and consequently at different volumes, different sound colours, in many parts of the voice, and on many vowels.

Intentional and unintentional vocal breaks

Vocal breaks often appear spontaneously in unschooled singers because they do not have sufficient technique to maintain a mode when it becomes difficult. The voice changes abruptly and spontaneously between modes. These uncon¬ trolled breaks can be straining for the voice and may interrupt a singer's planned line of sounds. As a singer's technique improves most of the unwanted breaks are eliminated (see Solving of the Vocal break, page 70).

Later in her/his career the singer may want to use vocal breaks for expression. It is these controlled intentional vocal breaks that I will explain in this chapter.

Singers who often use/used vocal breaks

Sam Brown, La Voix Mystere Bulgare, Patsy Cline, Gypsy Kings, Emmilou Harris, John Hiatt, Whitney Houston, Michael Jackson, KD Lang, Leadbelly, Professor Longhair, Vera Lynn, Allanis Morissette, Little Richard, Dolores O'Riordan (Cranberries), Linda Ronstadt, Hank Williams, and Brett Anderson

Control the modes

It usually requires a lot of practise to change between modes so quickly that the breaks sound good and feel healthy. Vocal breaks are often found in the marginal areas of a "mode. These areas are the most difficult parts of the mode to control so it is important to be in complete control of the two modes you want to change between. It requires great technical control to determine where, when, and how the vocal breaks should appear.

It is important for a singer to be in control of at least two (often more) modes to perform and vary vocal breaks. Controlling the modes is described earlier in this book (see Vocal Modes, page 74).

When the modes are under control, changing between them is practised to achieve the vocal break.

The more different the two modes, the more dis¬ tinct the vocal break. That is why vocal breaks are often used between full metallic (Overdrive, Belting) and non-metallic (Neutral) modes.

Practise-vowels

Practise-vowels can help you distinguish which mode you are in. They also help you avoid misus¬ ing the voice through choosing a wrong vowel. With practise-vowels each mode is sung in a pre¬ determined choice of vowel, volume, and sound colour (see Practise-vowels, page 135).

Finding vocal breaks between metallic and non-metallic

Sing a loud metallic sound such as the vowel EH (as in stay) in Overdrive on the note bb1 (for women) or g1 (for men). Make the 'bite' more distinct and sustain the note for a long time at a loud volume. Remember, that it must not hurt or feel uncomfortable. Let go of the 'bite[1], change to soft closure Neutral, and add air to the voice without changing the note or vowel. Make sure the jaw changes into the loose position and that you immediately decrease the volume. Notice the difference in sound between the two modes.

Once you can do this quickly and without discomfort, try it again without 'preparing' for the change. To do this, imagine you are using the same volume in both the modes - Remember it is not actually possible to use the same volume in the two modes. This should create a vocal break in the change from Overdrive to breathy soft closure Neutral. /Sj 42a

Practise the vocal break in reverse, from soft closure Neutral to Overdrive. The procedure is the same: control the two modes, sing them rapidly one after the other in their individual volumes, and then as if the modes could obtain the same volume.

Yodelling

Yodelling is rapid changes/breaks between Overdrive and Neutral often with leaps of six or seven notes. This can be practised like all the other breaks by first achieving the sound of the break and then gradually speeding up the changes/breaks.

Vocal breaks between modes

You can obtain more distinct, abrupt, and convincing vocal breaks by:

- choosing modes that are far apart in terms of sound and volume
- choosing the same vowel for both modes
- adding air to the voice if you sing in Neutral
- exaggerating the mode a little just before the vocal break

If a vocal break is not distinctly heard it is usually because the mode you are breaking FROM was not exaggerated enough.

On the next page a diagram illustrates between which modes vocal breaks can be performed. Not all vocal breaks are equally distinct but, with practise, they can become more noticeable. Use practise-vowels at first and later try the vowels shown in the diagram.

If you are a very experienced singer and have good awareness you can experiment with making vocal breaks to and from the vocal flageolet. This will make your breaks more distinct but you must know when to and when not to use the vocal flageolet so as not to ruin your technique (see Vocal Flageolet, page 64).

Exercises for vocal breaks

Sing two notes, each from a different mode. They do not have to be the same note so choose whichever note, vowel, and volume you find easiest in those modes. Now sing the first note, pause, then sing the second note. Once you can do this, omit the pause and increase the speed. Once you can control this rapid change homogenise the modes by using the same vowel in both. Always respect the limitations of the modes.

Brooke batWBun the modes			possible mutual vowels #	
«HB>	-•	<m	alf	
	→		Bl) (not EH and OH)	
	→		EH. OH	Not above &oT^ba
dSft	•+•	/HIM	EE. 1. EH, A and OE	
	→		all	
	→		all (not EH and OH]	
<S!3>	•••	®*^	EH, OH	Notabc 9^/eba
	→		EE. 1. EH, A and OE	
n	- •	«>	all [noc EH and OH]	
IHIEEB^	—•	<JJ3>	all fnot EH and OH)	
	→			Nat above &oT^ba
	→		•	
®4	-*.	<»	EH, OH	Not above Q da/eba
(•X^¡	"•		EH. OH	Not above Q da/eb2
	→			Not above (^ da/eba
®4	•+•	Bam	EH	Not above (J da/aba Cfca
	→		EE, 1, EHAandOE	
	→		EE, I.EH, AandOE	
	→		*	
	→		EH	Not above ij da/oba

The choice of vowels is only restricted in the high part of the voice. In the low part you can use all vowels.

§S^ Warnings

•k It can be **difficult to achieves** break between **Curbing and** Belting.

Q) For women
Cf For men

Soft closure Neutral
Compressed Neutral
Curbing
Overdrive
Belting

Once the vowels are the same, reduce the inter¬ val between the notes until you are singing the vocal break on the same note. ^ 42a

Now select a small phrase from a melody. Decide where in the phrase a vocal break will be suitable and which modes you want to break from and to. Isolate the modes and practise a quick change between them (perhaps with the use of practise-vowels) until you are in control of the break. Later replace the practise-vowels with the actual vowels of the text. Then practise the break with the text itself. Insert the vocal break into the melody and practise until you can control it. Vocal breaks usu¬ ally become more distinct the more they are prac¬ tised. Finally move the exercise upwards by half a note at a time but be **careful not to sing** in too high a pitch for Overdrive (especially women). @ 42b

Find several small phrases with text. Decide which modes will be suitable for which vowels. Sing the phrase and make a vocal break between the modes. Combine certain vocal breaks with certain musical phrases, so you are always able to find that specific break by singing that specific phrase.

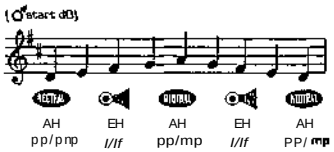
Later you can move the phrases upwards by half a note at a time. First practice the vocal breaks in a relatively low pitch. As you sing high¬ er change the modes you make vocal breaks from and to. When you arrive at a pitch where Overdrive can no longer be used, replace the

mode so as not to wear the voice. Be sure the vocal break is still audible.

Practise expanding the interval between the two notes of the vocal break. Start by practising a cer¬ tain vocal break on the same note and then expand the interval between the two notes. Again be careful not to sing in too high a pitch in Overdrive. @ 42c

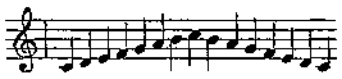
You might also practise vocal breaks on scales. Start from d1 (for women) or a1 (for men) and sing up and down through five notes. Sing the first two notes in Neutral and the next two in Overdrive and continue this pattern. Make the difference between the two modes as distinct as possible.

At first exercise slowly so that you have time for the change. Later practise more quickly but never make the changes so quick that you lose control of the breaks. Move the exercise upwards by half a note at a time. Again, be careful not to sing in too high a pitch when you sing in Overdrive. Q 42d



This exercise may also be extended to include octave scales. For example, change mode on every third note. Make a succession of modes so during the octave you go through all of them. Choose Overdrive as one of the starting modes so you do not have to sing in it in too high a pitch (especially women). Move the exercise upwards by half a note at a time.

An octave scale



You can also obtain a great effeol by making a vocal break from one mode to no sound and then back to a mode again. At first practise Hie vocal break from and to the modes you want. Whon you are In control of the break sing the mode *that you* bronk lo for just long enough to hear the vocal break but not so long that a note appears. When you break back again do it the same way - begin the mode at the point the break is about to appear.

This is an advanced exercise so you should be careful when experimenting. Make sure you are in full control of vocal breaks, know the basic princi¬ ples for the correct use of the voice, and know your voice so well that you recognise the moment it exceeds its healthy limits. *&&* 42e

When you have practised vocal breaks, remind yourself of the inaudible transitions between modes to ensure that vocal breaks have not been worked in so much that they appear unintention¬ ally.

If some of the vocal breaks feel uncomfortable, tickle, or scratch it is because the modes *are* not positioned correctly. Practise each mode sepa¬ rately until they feel comfortable. Then practise making the change between the modes, gradual¬ ly getting quicker. Finally practise the change - still without a vocal break - until you are performing the two modes correctly. Thereafter you can make vocal breaks between the modes and, at the same time, keep the correct and healthy positions of the modes.

Warnings

- The higher the part of the voice sung in, the more support you must provide to avoid wear on the voice or unintentional vocal breaks
- Make sure you do not exceed the limitations of the modes regarding pitch, vowels, volumes, and sound colours
- Be careful not to choose too dark a sound colour, especially for the metallic modes, around the vocal break

Air added to the voice

Air added to the voice (breathiness) can be very damaging if the three basic principles are not used (see Forcing, page 23). In this chapter I will explain the controlled use of breathy sounds which, if applied correctly, is just as healthy as other effects.

Air added to the voice usually gives an impression of intimacy and nearness and it is often used when singing quietly in soft closure Neutral with sphere 1 of a microphone. When the high fre¬ quencies from a breathy voice mix with the bass boost of the microphone, it gives a broad, soft sound that intensifies and gives body to, for example, a frail and light female voice.

Air added to the voice is ONLY to be used in Neutral. Therefore it can only be used in quiet vol¬ umes. You may think you have heard air added to a loud voice but you have to realise that in today's studios effects are added to voices to make them SOUND as if air is added to them, even though the singer is actually in a metallic mode with a louder volume. Do not be deceived by this. Using added air in a metallic mode is unhealthy for the voice.

Air appears on the voice when the vocal cords are not firmly compressed - the air passes the cords as the tone is produced. If too much air is allowed to pass it may impair the work of the cords, make the voice tired, and you will run out of breath too quickly.

By supporting correctly you can reduce the amount of air that passes and yet preserve enough to make the sound of added air whilst ensuring the cords are free to work. This way the added air does not harm the voice. It is possible to sing with air added to all parts of the voice, in all sound colours, and on all vowels. But only in Neutral.

singers who use/used air added to the voice
The Bee Gees, Michael Bolton, Art Garfunkel, Astrud Gilberto (The Girl From Ipanema), Whitney Houston, Julio Iglesias, Marilyn Monroe, Diana Ross, Dusty Springfield, Sarah Vaughan, and Dionne Warwick.

Control the Neutral mode

Before experimenting with adding air to the voice you must be in control of Neutral. You must be able to sing the mode in all parts of the voice, all sound colours, vowels, and in quiet volumes. Also before you start adding air to the voice, you must be capable of removing involuntary breathiness from very quiet volumes (pp). This effectively means you must be able to sing all notes, vowels, volumes, and sound colours in compressed Neutral - WITHOUT breathiness. If you can do all this you can safely say the breathiness does not come from insufficient technique.

When you are sure you can control Neutral try reducing the compression of the vocal cords and releasing a small amount of air together with the note. Notice that you actually only need to release a small amount of air to get a breathy sound. If you increase the amount of air you will not achieve a more breathy sound but force the voice which might feel uncomfortable and be damaging.

Finding air added to the voice

Remember only to practise adding air in Neutral.

Sing a quiet note on the vowel A (as in and) in a comfortable pitch. Now try to add more air to the note without reducing the support or constricting the throat. A soft hissing sound will appear together with the note. Make sure this sound is much smaller than the note. If the hissing sound drowns the note, stop the exercise and start again with a slightly louder note (still in Neutral). Adding air to the voice should not feel different to singing without added air. The only difference is that the vocal cords are slightly relaxed, the compression is less firm. It should feel like you are singing compressed Neutral with just a bit of added air. However, if you allow too much air to pass the cords this feeling will disappear. Find the exact amount of air to add. Sustain the note with added air for a relatively long time and feel the amount of support energy required.

Sing up and down through three notes with air added to the voice and concentrate on the notes being sung the same way as in compressed Neutral. Imagine that you use the same amount of support that you normally would plus a little extra to sustain the added air. Notice the extra amount of support required to add air. When you have become familiar with this extra support you can choose to add air at any time in Neutral so long as you add the extra support.

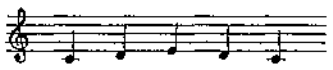
It might be a problem to keep the added air, especially in the high part of the voice. The underlying note may even disappear. If this happens return to a more compressed Neutral - a Neutral without any air - and perform the same exercise. You will probably discover that the note requires more support than you would expect. Return to the exercise with added air and apply increased support PLUS the small extra amount of support required to sustain the air added to the voice.

If you want to experiment with just how loud you *are able to* sing with air added to the voice, control the three basic principles of singing and make sure you know your voice so well that you feel the moment you exceed its healthy limits

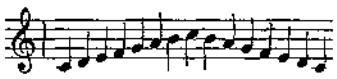
Exercises for adding air to the voice

Practise adding air to the voice in the same way you practise the Neutral mode. *Practise scales* of three and five notes, octaves, leaps, and triads. Use various vowels, sound colours, and volumes. Be careful not to sing too loudly with added air as this, to most singers, seems unnatural and requires a lot of energy. If the volume is too loud you are at risk of forcing the voice which will ruin your technique and damage the voice, *(gs* 43

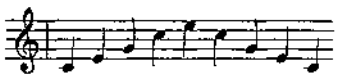
A scale of three notes

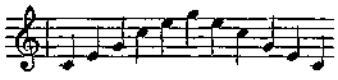


An octave scale



Triads





When dllllcult

If you think it difficult to add air to the voice, it might be because you naturally have a firm com¬pression or that you sing or speak in a metallic mode.

If you feel it is difficult to add air you can start by whispering. Whisper a vowel and gradually apply more note. The more note you apply, the less air you must add to avoid forcing the voice. Make sure the note is distinct and that the added air is only a minor sound compared to the note. Later when you control adding air you can alter the balance of note and air.

If you sing in a metallic mode - even an ATTEMPT to add air to the voice will be damaging.

Warnings

Remember to only use the Neutral mode when you want to add air.

Also remember to practise Neutral without adding air to the voice, so that added air does not appear unvoluntary.

- You should only practise adding air to the voice if you can control Neutral
- Remember to comply with the three basic prin¬ciples of singing
- Be careful not to sing in a metallic mode at the same time as adding air as it might damage the voice
- The higher the part of the voice sung in with added air, the more support needed
- Do not sing too loud with air added as it will force the voice, which might feel uncomfortable and be extremely wearing

Screams

A scream is a sudden, often ferocious, loud, and high-pitched note. Screams are effects that can contain several different expressions and are usu¬ ally used for powerful emotional outbursts such as terror, enthusiasm, or powerlessness. They are used in many styles of music from Soul to Heavy Rock. There are many types of screams - clear as well as distorted.

In fact screams are not any different to other notes. A scream is in fact just a high-pitched note in a given mode. If you can control the mode you can make a scream.

Screams, like other notes, are produced by colouring the note with the vocal tract - normally by twanging the epiglottis funnel. You can make screams in different modes depending on which sound or volume you want. It is important that the mode is maintained even during the most fero¬ cious scream, because it is the correct positioning of the mode that secures you against wearing the voice. If you lose the mode during a scream, it might feel very uncomfortable - usually the singer is seen coughing with tears pouring out her/his eyes. At times like these there should be no doubt the scream was performed incorrectly.

Screams in Neutral

Sing a note in compressed Neutral, in a comfort¬ able pitch, on the vowel AH (as in far), with a very light sound colour. Broad the tongue and pull it back so the rear end is behind the molars in the upper part of the mouth. Twang the epiglottis fun¬ nel and find where you can get the loudest sound without adding metal. The note will be sharp and light.

Now sing gradually higher until you are singing around the high c (c3 for women and c2 for men). The note is sharp but without the metal - it is Neutral - and can be called a twanged, metal-like[1] Neutral. When a note/scream like this is sung in the high part of the voice it can be loud. But in the middle part of the voice the sound will often be more thin and squeaky. The flatter and smaller you make the vocal tract and the more you twang the epiglottis funnel, the lighter and sharper the sound becomes. If you add a slow vibrato in the high part of the voice you can obtain a sound like the screams of Ian Gillan in Deep Purple's 'Child in Time'. g& 44a

You can also choose to project the epiglottis fun¬ nel instead of twanging. The scream become rounder.

Singers who use screams in Neutral
James Brown, Ray Charles, Terence Trent D'Arby, Ian Gillan, Nina Hagen, Michael Jackson, Mick Jagger, Bobby Kimball (Toto), BB King, George Michael, Paul McCartney, Prince, Little Richard, David Lee Roth, and Stevie Wonder.

Screams in Belting

Instead of choosing compressed Neutral **you can** and add metal to the sound by making **the scream** in Belting.

Sing in Belting in a comfortable pitch on the vow¬ els I (as in sit) EH (as in stay), or A (as in and). Remember to twang the epiglottis funnel, raise the larynx, and broad the tongue (pull it all the way back so that its rear end is behind the molars in the upper part of the mouth) so that the vocal tract

is small and the sound colour is light. This will help keep the full metallic sound of Belting. Find how to make the volume the loudest. The note should be very sharp and metallic. Gradually sing higher up and, if you are able to, practise all the way up to the high c (both men and women). The note is sharp, pointed, with a distinctly metallic sound, and a very loud volume (ff). The lighter you can make the sound colour and the more you can twang the epiglottis funnel, the sharper and more metallic the sound becomes. (%\ 44b

Singers who use screams in Belting
James Brown, Aretha Franklin, Michael Jackson, Bobby Kimball (Toto), Prince, and Tina Turner.

Combined screams

You can also vary the sound of a scream during its course. These are called combined screams. James Brown, for example, often starts his screams in Belting but alters them on the way. He makes the sound colour darker, drops the pitch, and ends up letting go of the metallic sound. In combined screams the vowels often determine the mode. For example, for a metallic sound you can choose a flattened A (as in and) and when you let go of the metallic sound the vowel is altered to U (as in you).^ 44c(1)

You can also make a combined scream the opposite way by starting on a darker note in Neutral on the vowel U (as in you) and changing it to a metallic note (for example in Belting) while you alter the vowel to A (as in and), EH (as in stay), I (as in sit), EE (as in see), or OE (as in herb), (g 44c(2)

Singers who use combined screams
James Brown, Nina Hagen, Michael Jackson, Annie Lennox, Prince, Bruce Springsteen, and Sly Stone.

Distorted screams

You can also add distortion to screams. The distortion can be produced with more or less note. First practise the clear scream and control the underlying mode. When this is under control practise adding distortion. When you have perfected the distortion, you can decide how much to add to the scream, (g 44d(1)

You can choose any ratio of noise and note, from a slight distortion to a full distortion, perhaps with rattle. The more distorted the scream, the more 'noise', and the less note. A full distortion scream is consequently only 'noise' and no note. This is often used by Joe Cocker. James Brown often uses half-distorted screams, (g 44d(2)

Certain singers, for example Prince use the flageolet to create the distortion resulting in flageolet screams, gj 44d(3)

Singers who use/used distorted screams
James Brown, Joe Cocker, Terence Trent D'Arby, Ian Gillan, Buddy Guy, Michael Jackson, Janis Joplin, Bobby Kimball (Toto), Wilson Pickett, Prince, and Tina Turner.

A case story

A *very* experienced hard rock/punk singer was going hoarse from distorted screams whilst recording. This was quite a problem as his screams were a major part of his records and concerts.

It turned out that his distorted screams began in an incorrectly positioned Belting and this bad positioning was wearing his voice. We worked on locating the exact position for Belting and worked in sufficient support for the mode. We worked on twanging the epiglottis funnel more, raising the larynx, and directing the vowels towards I (as in sit) or A (as in and) in the high part of the voice. Then we gradually worked up to such high parts of the voice that the notes became screams. We worked on him being able to find and leave modes quickly and finally we practised a healthy distortion to the screams. Now that the singer controlled Belting, the distorted scream no longer harmed his voice.

As he also wanted darker screams in lower pitches we worked in Overdrive by establishing the 'bite' more distinctly and altering the vowels to EH (as in stay) and OH (as in so) in the higher the part of the voice. Through working on Overdrive he found his voice suddenly obtained the richness and warmth that he had always wanted. It turned out that he, beside his career as a punk singer, had a secret dream of being a crooner.

The work on the distorted screams did not take long *so* he spent the rest of the time crooning through old songs to the supreme joy of the rest of the band.

Hoarse attacks and 'Creaks'

Hoarse attacks and 'creaks' are effects usually used in the beginning or ending of a phrase, often while holding a microphone close to the mouth (sphere 1). They are used to give the impression of intimacy and nearness or that the singer is about to break down emotionally and cannot go through with the song. Hoarse attacks and creaks can be used in all modes but are most often used in Neutral.

Creaks are produced by singing a metallic mode so quietly that the voice trembles between metallic and non-metallic sound and therefore 'creaks'.

Horse attacks are produced by starting on the note with a slight distortion. This distorted attack can be used in all modes (see Distortion, page 170).

Creaks can be produced in a healthy way by preparing for a metallic mode but then reducing the volume so that the metallic sound cannot be sustained. The voice trembles between metallic and non-metallic giving the creaking, frail, and precarious sound. Creaky sounds can be sus¬tained as long as you apply too little volume for the voice to make a metallic sound. When you apply more volume the creak disappears and you get a clear note. The creak might sound unhealthy for the voice but as it is performed in quiet a vol¬ume this conscious attempt to fail does not cause discomfort or wear. Be sure that you do not trigger constrictions because of the small volume. At all times remember that it is the mode that dictates which parts of the voice, sound colours, volumes, and vowels you use.

singers who use/used hoarse attacks and creaks
Michael Bolton, Mariah Carey, David Gilmour (Pink Floyd), James Ingram, Michael Jackson, Janis Joplin, BB King, Roger Waters (Pink Floyd), and Stevie Wonder.

Finding creaks

Sing a note in Curbing on the vowel O (as in woman) in a comfortable pitch. Gradually decrease the volume while maintaining the 'hold'. Feel how quietly you can sing in Curbing before it starts to become shaky. This must not feel uncom¬fortable or hurt. If you continue decreasing the volume the note disappears and only a creaky sound remains. «a 45a(1)

Now try making such a quiet attack in Curbing that you immediately make a creak (in other words, find the creak without having to reduce the vol¬ume). Become familiar with when the creak appears and disappears so you are able to hit the exact amount of creak. ^ 45a(2)

Start on a creak and gradually increase the vol¬ume until the exact position for the mode appears and the creak is replaced by a clean note. Even if you produce the creak with the 'hold' of Curbing there is no reason why you cannot complete the note in another mode. You can, for example, choose to let the creak glide into Neutral, perhaps with air added to the voice. In this case, as you go from creak to clear note, let go of the metallic sound and let the creak glide into Neutral and add air to the voice. ff& 45a(3)

Exercising hoarse attacks and creaks

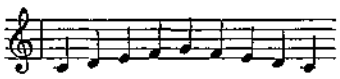
Sing a note in Curbing and decrease the volume until the creak appears. Now increase the volume and feel how the note returns and the creak dis¬ appears. Become familiar with how little and how much volume each note requires to make the creak appear or disappear. *(£s* 45a

To produce a hoarse attack practise a slightly dis¬ torted attack of the note. For example, practise distortion in Neutral Q 45b

Practise a hoarse attack or creak that glides into a mode and then back to the hoarse attack or creak. Start with soft closure Neutral, a 45c(1) Then compressed Neutral, ^a 45c(2) Then Curbing. ^ 45c(3) Then Overdrive. ^ 45c(4) and then Belting. (Sc 45c(5)

Choose small phrases of a melody and decide where you want to place hoarse attacks and creaks and which modes you want to glide to and from. Make it sound as natural as possible.

Perform exercises with hoarse attacks and creaks (perhaps on fifth scales) on various vowels, sound colours, and volumes.

A fifth scale 

Be careful not to sing too loudly on the hoarse attack or creak. If you want to experiment with just how loud you can sing the hoarse attack or creak make sure you are in full control of the three basic principles and know your voice so well that you feel the instant you exceed its healthy limits.

Warnings

Remember to practise the various attacks without hoarseness or creaks so that hoarse attacks and creaks do not start appearing unintentionally.

- Do not sing too loudly during the hoarse attacks and creaks. This might cause a forcing of the voice which can be uncomfortable and exceed¬ ingly wearing on the voice
- The higher the pitch used for a hoarse attack or creak, the more support must be given to avoid constrictions
- The higher the pitch used for a creak the more it may help to direct the vowels towards O (as in woman) or I (as in sit)
- Be careful not to lower the larynx too much dur¬ ing the hoarse attack or creak as it might feel uncomfortable and be wearing on the voice

Vibrato

Three types

Children and untrained singers usually do not have vibrato in their voice. It is usually found in experienced singers. The speed and range of vibrato can vary greatly from singer to singer.

There are three types of vibrato: hammer, diaphragmatic, and laryngeal.

Hammer vibrato

Hammer vibrato is also known as vocal cord vibrato. It may be thought of as a long line of glot¬tal attacks and may sound like a bleating sheep or a machine gun. This vibrato can be trained into the desired range and speed. It is often heard in Arabic singing as well as Spanish flamenco. It is also used by some French singers like Edith Piaf and by several folk singers. Hammer vibrato may be used as a preliminary exercise for practising rapid run of notes (see Techniques for Ornamentation, page 197). ^ 89

If you wish to develop this vibrato it should be practised. Inhale and then exhale with the feeling of holding back your breath and copy the sound of a bleating sheep or a machine gun. This is a ham¬mer vibrato. Practise the rapid pulsations until they become LIGHT and EVEN. Remember that it must never be unpleasant or painful. Remember to use the three basic principles: keep an open throat by using support, and avoiding tensions in the jaw and lips. <§| 46

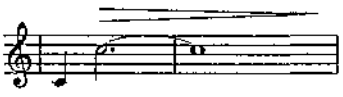
Diaphragmatic vibrato

Diaphragmatic vibrato is produced by the pulsa¬tions generated from the support muscles. If you open your throat you may be able to hear this pul¬sation on a note. Apart from an open throat, diaphragmatic vibrato requires correctly function¬ing support. Its volume and speed can be con¬trolled and, if combined with laryngeal vibrato, the pitch is also changeable. Diaphragmatic vibrato is only heard in Neutral, g) 90

Diaphragmatic vibrato occurs spontaneously when you are thinning a note with a large amount of support and an open throat. The vibrato can be heard when the throat is opened, and volume is halved without diminishing the support energy.

Practising diaphragmatic vibrato

You can practise diaphragmatic vibrato in the same way as thinning a note or a pianissimo (see Volume, page 58). Sing a powerful note with solid support and an open throat. Make an octave leap and maintain the quality of the note. Gradually halve the volume but keep the throat open and maintain the support energy as if the sound was still as powerful as before. If the throat is kept open the diaphragmatic vibrato can be heard at the end of the note. You will feel a small, delicate vibration on the soft palate. When you are familiar with this sensation you can make it stronger if you want a larger vibrato. Make sure the jaw is not tightened and that the support is in motion. Be patient - diaphragmatic vibrato emerges as a nat¬ural extension of correct technique. At the begin¬ning it is small, delicate and may be difficult to hear. Practise with others because it is easier for someone else to hear, /©> 47



An octave leap

Diaphragmatic vibrato as image and sensation

- You can describe this small, delicate vibrato as a singer having twice as much support energy as required for the volume whilst keeping an open throat. If the support value is 100 and the volume is also 100, the note will be without vibrato. If the support value is 100 but the volume 50 and you have an open throat the extra 50 is used for producing the vibrato.
- The support must be firm and not jumpy
- The sound is like a long flow with grooves on the surface
- The feeling is relaxed (not the support) and not a rough pumping

Laryngeai vibrato

The third vibrato is the laryngeai vibrato or throat vibrato. It produces more of a difference between notes than diaphragmatic vibrato. It is made by moving the larynx up and down, creating a variation of pitch. This vibrato is often slower and broader and with a larger difference between notes than the other types. If your jaw and tongue are very loose, the laryngeai vibrato may from time to time be accompanied by a quivering tongue, jaw, and sometimes head.

Distinct laryngeai vibrato is often used by crooners, jazz singers, and blues singers. ^ 91

Practising laryngeai vibrato

You can practise laryngeai vibrato by changing between two notes. Choose two notes not so far apart (for example a major second: d-e-d-e-d-e and so on). Accelerate changing between the notes. Practise making the movement as fast and as even as possible (diagram 1).

Then choose two notes closer together (a minor second: d-eb-d-eb) and again practise speeding up between them [diagram 2).

Finally, make small changes within the same note (quarter tones or even smaller intervals), and practise making the movement as small and even as possible. You can help the vibrato by using the vibrating in the soft palate. $& 48

Practising speed

You can practise the speed of a vibrato by using a metronome. Set the metronome at 60 beats per minute and make three pulsations of sound per beat. Say 'sss'-'sss'-'sss' or 'hey-ey-ey'. Practise these pulsations until they sound similar and even.

Then practise making three, four, or five pulsations per beat. Imagine the pulsations moving forwards, not up and down. Use more support if the vibrato is not even.

Speed up the vibrato by speeding up the metronome (beats per minute) until you reach the speed of pulsations you want, ga 49

Using vibrato

Skilled singers use vibrato to emphasise expression. All three types of vibrato can be used in a song.

Many singers adjust the speed of the vibrato to the rhythmic sub-divisions of the song. For example, you might choose to put a slow vibrato in a slow song and a fast vibrato in a fast song. A commonly used method to emphasise expression is to start on a note without a vibrato and then gradually add it towards the end. You may add intensity at special places by making the vibrato faster or by delaying it. gj 92

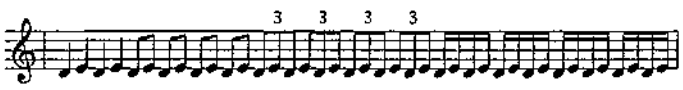


diagram 1

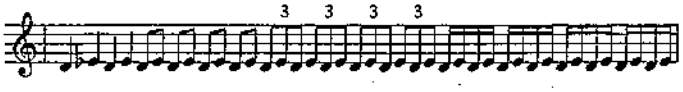


diagram 2

Musical styles have their preference for types of vibrato. Classical singers often sing with a larger vibrato than rock singers. Rock singers hardly ever start a note with vibrato whereas classical singers almost always use vibrato from the begin¬ning of the note.

If vibrato is wanted in Overdrive, Belting, and Curbing it must be added consciously. Vibrato usually costs even more energy in these modes.

Too much vibrato

Some singers have problems with too much vibra¬to. This is usually because the support is slack. The problem is solved by singing and supporting more powerfully. However, it usually requires more energy than the singer is accustomed to. The increased support values must be practised and maintained if you want to lessen the vibrato.

Tremolo

Some singers have an involuntary rapid vibrato, especially towards the end of phrases. This is known as a tremolo, and is, in fact, not a vibrato, but a malfunction. This very rapid quiver is due to a lack of support making the note unstable.. Different voices react differently. For most singers a lack of support produces a constriction that to a greater or lesser degree will constrict the voice preventing it from reaching high notes. But for oth¬ers lack of support result in a tremolo. A tremolo is therefore often heard in experienced singers who have learned to overcome a problem in reaching high notes despite insufficient support. @ 93

A case story

A very experienced actor and singer was not happy with her vibrato; it was too fast and appeared uninten¬tionally.

It turned out that it was not a vibrato but a tremo¬lo which had appeared because she had sung without sufficient support for so long. We started working on exercises where she sang so loudly and with such a con¬stant amount of support that not even a vibrato, less a tremolo, could appear. It was easy to hear when the notes were lacking support because the tremolo imme¬diately returned. Now she started the important work of practising the extra amount of support until it became muscular memory. For a while the singer had to provide extra support the minute the tremolo appeared.

After three weeks of practising, the extra amount of support became a natural part of her singing and the tremolo no longer appeared. Furthermore, after prac¬tising with a }aryngeal vibrato she learnt *to* control both the pitch and the speed.

Getting rid ol tremolo

If you have a tremolo in your voice you should get rid of it as fast as possible. The longer a tremolo is allowed to stay, the more distinct it may become and the harder it is to remove. If not got rid of it might manifest on all notes and not just the end of phrases.

A tremolo can be hard to get rid of. Start by exer¬cising your support until it becomes strong and learn how to control it so you can intensify at will. Then sing only fairly powerful notes with a lot of support energy. The notes should now be without vibrato. This will usually require more energy than you are accustomed to. This new level of support energy must be practised and under no circum¬stances should you sing with LESS energy. When you are able to control single notes without tremo¬lo continue by practising small scales, for example up and down through three or five notes, until you are able to control it. Afterwards, you can sing longer sequences, perhaps octave scales, without a tremolo. /S▷ 61

You should continue to work with this extra sup¬port energy until you are convinced the tremolo has disappeared. When you can sing with the very last bit of air - which would normally invite the tremolo - and the tremolo does not return, it has finally gone. Try singing longer sequences of two octaves up and down and be sure the tremolo does not appear when you run out of support energy.

Techniques for Ornamentation

Ornamentation means to decorate the singing. The decorations can be both melodic and rhyth¬mic. This can be called fast phrasings, a rapid 'run of notes', or (in classical music) coloratura. It is often used in popular R 'n' B music. £& 50b(8)

It can be very difficult to make a rapid run of notes even and equal as they often become untidy and the rhythm is lost. The melodic line becomes blured, hazy, and indistinct. You can achieve an even and equal rapid run of notes by using orna¬mentation technique. However, before you can benefit from the technique you have to know exactly which notes you want to sing in the orna¬mentation. To help you decide see Improvisation and phrasing on page 217.

It is not difficult to learn to perform ornamenta¬tion technique but it usually takes a good deal of time.

singers who use/used ornamentation technique
Michael Bolton, Boyz II Men, Khaled Hadj Brahim, Marian Carey, Randy Crawford, Celine Dion, Whitney Houston, James Ingram, Freddie Jackson, Om Kalsoum, Nusrat Fateh Ali Khan, and Stevie Wonder.

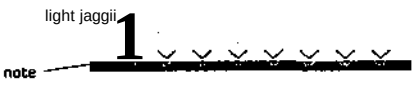
There are two ways of achieving the backbone of ornamentation technique. One is through hammer vibrato and the other through laryngeal vibrato. You can use either.

The hammer vibrato method

Do a hammer vibrato (see Hammer Vibrato, page 194) making sure it is rhythmically even. It does not matter if the vibrato is very jagged at first. Practise until it is completely even at all speeds.

Practise the hammer vibratro.
It does not matter if the vibrato is very jagged at first

Then practise the vibrato until it becomes light and not so jagged. It still has to be even but keep the underlying note all the way through. Practise a faster and a slower tempo of the hammer vibrato but maintain its lightness. When you can control the speed you have the 'grid' which is the back¬bone of ornamentation technique. *(Sgh* 50a(1)



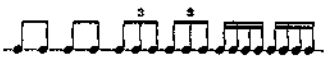
Practise the hammer vibratro untill it becomes light and not so jagged

The laryngeal vibrato method

If you can do a very slow laryngeal vibrato you can use that as your starting point (see Laryngeal Vibrato, page 195). Make a slow laryngeal vibrato and stress the sound every time the pitch is at its lowest. When you can control this stressed sound and its speed you have the 'grid' which is the backbone of ornamentation technique, (ta 50a(2)

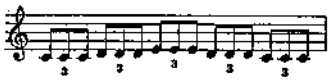
Exercises for ornamentation technique

Using the 'grid' and the vowel 'ee', choose a beat and divide it into two (eights). Use a metronome if you wish. Then divide it into three (triplets), then into four (sixteens), and then *Mo* six (sixteen triplets). Practise increasing and decreasing the tempo. @50b(1)



Divide a beat into two, then three, then **four**

Use for example three pulsations per beat (triplets) in the grid. On the first pulsation of every third sing a different note (in other words change note on every beat). Once you can do this, sing a scale up and down by three notes. When you are comfortable with this go up to four (sixteens) or six pulsations per beat (sixteen triplets) and repeat the scale. Repeat the exercise starting half a note higher or lower each time. fi& 50b(2)



Three notes with three pulsations on every beat

Now instead of changing note on every beat, change on every pulsation in the grid. When you are comfortable with this try changing between leaps and scales. Then go on to small melodic sequences. The very experienced may wish to use pentatonic and blues scales (see Exercises in advanced melodic training, page 221). Make sure the grid remains even and light. Combining the grid with notes is ornamentation technique. ||» 50b(3)

Alternate between singing notes with and without the grid so you can add or remove it at will. ^ 50b(4)

Practise the grid in all modes. ^ 50b(5)

Practise the ornamentation technique (singing notes on the grid) in in all modes. Be aware that it requires more energy in some modes than in oth¬ers. @ 50b(6)

Practise various rhythmic sequences with the *ornamentation* technique. Put different rhythmic sequences together into rhythmic ornamenta¬tions. @ 50b(7)

Choose a song and decide where to place the ornamentation. Find the speed of the grid that is in time with the song and add it to long notes. When this is under control use ornamentation technique. In the places where you do not want ornamentations sing completely free of any kind of vibrato as this provides greater contrast. Later you can add all kinds of vibrato to where there is no vibrato.

When you are in control of all this, you can choose freely between different kinds of vibrato within the ornamentation. ^ 50b(8)

A lashing movement to emphasise the grid

Some singers use a small lashing movement with the back tongue to emphasise the grid in orna¬mentation technique. Place a hand on the border between the jaw and the neck and practise mak¬ing a lashing with the back of the tongue. This can be felt on the hand like a pulling upwards or push¬ing downwards.

You can find the lashing movement by starting a swallow. Just before you swallow the border between the jaw and the neck moves upwards. You can feel this on your hand between the jaw and the neck. Try to isolate this feeling without carrying on with the rest of the swallow. See if you can control the pulling up or pushing down motion so that you can perform it at will and at whatever speed you wish.

Pactise the lashing movement without sound at first and later with sound. Train the tempo of the small lashing movement until you are able to use it to emphasise the grid. This often requires quite a lot of practise.

A case story

An experienced jazz singer who used fast rhythmic changes, breaks, and many rapid run of notes had problems on a tour with hoarseness and too little volume. He was afraid that he might have to cancel that night's performance.

It turned out he exclusively sang in Curbing because it required less energy than Overdrive or Belting, Choosing Curbing had made it easier for him to sing ornamentaions and make many rhythmic changes. However Curbing has the disadvantage that you cannot sing very loud (ff) and it was his attempts to sing loud that caused the constrictions and made him sound hoarse. We worked on keeping an open throat by means of increased support and removed the constrictions he had worked in. Soon the voice was clear again. After this we worked in Overdrive for the phrases he wanted a louder volume for. We established the 'bite' and directed the vowels towards EH (as in stay) and OH (as in so) in the higher part of the voice. His voice got accustomed to producing full metallic instead of half metallic sounds every time he wanted a loud volume. For the rapid run of notes, however, he still used Curbing as he wanted a more moderate volume for these parts.

When he had learnt to alternate between Curbing and Overdrive and to use the modes correctly in accordance with volume he had acquired greater volume and, at the same time, maintained the lightness of the rapid run of notes. He no longer sounded hoarse and had no problems accomplishing that night's performance or the rest of the tour.

Hoarseness

There can be a number of reasons why a voice becomes hoarse. If you remain hoarse for a long period of time you should always seek a special¬ist and have your voice examined for a diagnosis.

A specialist can look down at your vocal cords with the help of a mouth mirror. At times, however, the mirror may not show all of the cords and so these days a fibre optic endoscope is used. This endoscope is a thin cable of optical fibres that can be passed through the nose and down the throat to just above the vocal cords. The other end of the endoscope is attached to a monitor and, if need¬ed, a video recorder. The specialist can record what is seen to show the patient what s/he has found or to examine it further at a later date or to consult with colleagues.

Hoarseness does not necessarily mean the voice is so worn that you should not use it. In most cases it is caused by constrictions that have [aced up but not yet damaged the voice. Therefore, although the singer sounds hoarse there may not be any damage. It is possible to release constric¬tions within a few hours. If this is done the voice remains well and sounds normal (see Emergency Aid, page 205).

Some ol the passible causes ol hoarseness include:

- irritation
- the early stages of nodules on the vocal cords
- a cyst
- infections like a cold or tonsillitis
- allergies
- singing or speaking with incorrect technique
- acid reflux (coming up) from the stomach

When the voice is worn

If you have severe and long term constrictions the membranes of the vocal cords become tired, irri¬tated, and swell like a blister. The swelling is because they fill with liquid and is known as oede¬ma. It makes it difficult for them to vibrate as rapidly as before resulting in a lower pitch. The swelling also prevents the vocal cords from clos¬ing properly, allowing air to whistle through them, creating the hoarse sound as well as a dark, and breathy sound.

Singing when voice is worn

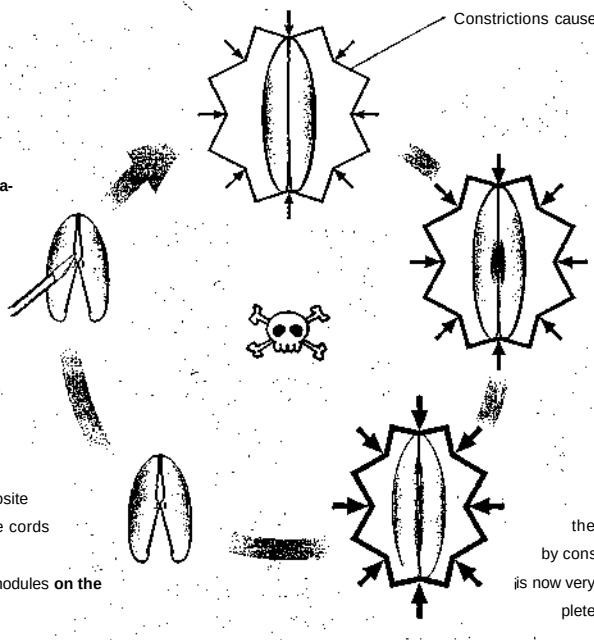
If a singer sings despite a worn voice (perhaps because of a scheduled concert) s/he must strain to make the vocal cords close properly. This puts large pressure on the cords, the largest being at the point of the swelling. It takes a lot of strength to 'squeeze out' a clear sound from swollen vocal cords. It is, however, possible. Many singers com¬plete concerts even though high notes may fail.

Singing when the voice is worn wears your voice even more. The vocal cords may swell so much after a concert they are no longer able to close and the voice is simply gone. You often hear singers say, 'How strange! I was hoarse before I went on stage. When I was singing it got better but afterwards I couldn't utter a sound'. This phe¬nomenon is not so strange. To sing, the performer has to 'squeeze out' notes from swollen vocal cords by tightening them even more. This irritates the vocal cords further making them want to swell. Once the performance is over yet more fluid accu¬mulates in the cords, worsening the swelling.

Nodules on the cords

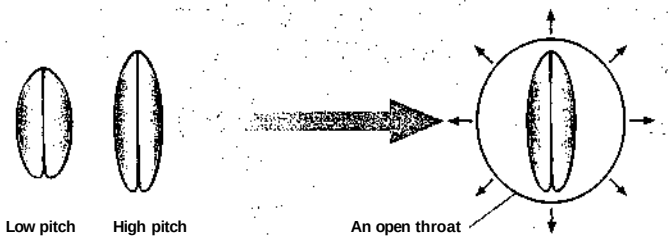
Many singers believe that singing with swollen vocal cords are not dangerous because, with effort, they can still sing. However, persistent singing with swollen cords continues to irritate them, making the swelling worse, especially at the area most affected by constrictions. Eventually this swollen part will stop the rest of the cords from closing properly. From now on when the cords attempt to close only the swollen areas

The vicious circle



Correct technique

It is not difficult for the vocal cords to stretch or slacken if they are not obstructed. Remember to keep an open throat.



come together. This sets up a vicious circle. Closing the cords brings only the swollen areas together and this increases the pressure on them which worsens the swelling. Meanwhile the rest of the cords do not meet and therefore do not feel much pressure. Any swellings in these areas go down. Consequently there are two swollen areas, opposite each other, getting larger and larger and stopping the rest of the cords from working (see diagram). Eventually it becomes very difficult to sing.

The singer sees a doctor who diagnoses, 'nodules on the vocal cords', known as 'nodulus langyris' or 'singer's nodes'. Such nodules can be further categorised into developing or permanent. By definition, a nodule exists when there are swellings on both vocal cords, opposite each other.

Voiceless period, speech therapy, or operation

If you have developing or permanent nodules on your vocal cords it is a sign that something is wrong with your technique.

You can try a voiceless period - no singing, speak¬ing, *or* whispering for 10-14 days, after which most nodules have disappeared of their own accord. This is usually the fastest way.

You can be referred to a speech therapist who assists the singer in exercising the nodules away. This usually takes quiet a bit longer.

The specialist might also suggest an operation, where the nodules are cut away from the vocal cords with a laser. About ten days after the oper¬ation the vocal cords are healed. The singer must not speak or sing during this period.

As a starting point I always recommend singers take the voiceless period. It works fast, is cheap, and has no side effects.

Whatever method used it is important the singer learns the correct technique so s/he avoids dam¬aging the voice. Otherwise the singer will become hoarse again, continue to sing on the hoarse voice, get even more hoarse, the voice fails yet again, perhaps necessitating another voiceless period, speech therapist or operation.

Nodules

Hoarseness is the first sign of a singer going wrong. If you continue to be hoarse or suspect the development of nodules, get a diagnosis from a specialist.

If the specialist diagnoses nodules, whether they be permanent or developing, there are plenty of things you can do to avoid an operation.

Prevention is better than cure
so il the voice Is worn it needs rest!

Just like a blister, it needs rest to disappear. If you keep irritating the cords they will remain swollen. To get rid of a blister on the foot you should give the foot a rest by not wearing the tight shoes that caused the problem. Treat your vocal cords the same way. Do not speak, let the voice rest, and spend a few days writing little notes to the world.

A voiceless period

If you have been diagnosed with nodules on the vocal cords I recommend a voiceless period of a week or two depending on how developed the nodules are. By a voiceless period I mean DO NOT MAKE A SINGLE SOUND! Do not whisper because that tires the voice even more than ordi¬nary speech. And even avoid clearing your throat. Give the vocal cords a rest and write little notes instead. This method is very efficient and has no side effects. Many dis¬cover that it is actually a valuable mental experi¬ence not to speak for two weeks. You may find a whole new side to yourself.

If it is absolutely necessary to speak, do so clear¬ly, with plenty of support and a large, open throat. It is not a good idea to whisper or be 'cautious'. Often singers put more constriction on the voice by being cautious. They forget all about support¬ing the voice when they speak quietly. It requires

a lot of technique to speak **quietly in a correct** manner. It is better to add **a bit more sound and** remember to support well.

Relax the voice

You must avoid constrictions around the vocal cords even when you are not speaking or singing. This is also important when the voice is well. Try to relax, inhale deeply, and feel the throat opening up during the inhalation. Hold on to this openness when you exhale and be careful not to tighten the muscles around the throat.

Think positively

It is important not to be too worried about the vocal cords. The throat instantly reacts to our emotions. You know the sensations when you are sad: the throat con¬stricts, you 'get a lump' in your throat and lose control of the voice. Try to think positively and send happy, warm thoughts to the vocal cords.

Exercise while resting the voice

You should not have to sit still for a voiceless peri¬od. You may 'steam' the voice (see Steaming, page 207) and use the time to work on breathing and supporting exercises as these do not involve the cords directly. You can also work on body awareness and strengthening the muscles to sup¬ply you with the stamina to protect your vocal cords in the future. Be careful not to tighten the throat muscles during physical exercise. If you have been determined in your work throughout a voiceless period you will improve your singing technique more rapidly when you start singing again.

Starting again

After a week or two you should get a new diagno¬sis from the specialist.

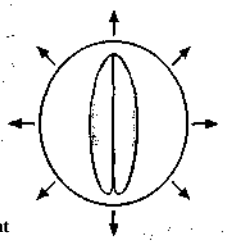
- If the nodules are gone you can start to exer¬cise the voice using the correct techniques to avoid problems in the future
- If small areas of the nodules or the swelling remain, you could try a further voiceless week until they are all gone
- Only in a few cases is an operation necessary but even if it is, a voiceless period will not have been in vain if you had worked on your tech¬niques during the time

Open throat

When the vocal cords are back to normal, either due to the voiceless period, speech therapist or an operation, you must learn to use the voice without the constriction that irritated the vocal cords in the first place. If you avoid these wearing constrictions and keep the throat open, it is possi¬ble to sing without ever ruining the voice.

Constrictions can be avoided by keeping the open throat. Imagine that you are creating a circus ring, a large opening, or a fortress wall around the vocal cords so they have room to stretch (see The Throat, page 45 and The Three Basic Principles, page 60).

The vocal cords can cope with extensive use for long periods of time but CANNOT endure working under the extra strain of constrictions.



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As a starting point I always recommend singers take the voiceless period. It works fast, is cheap, and has no side effects.

Whatever method used it is important the singer learns the correct technique so s/he avoids dam¬aging the voice. Otherwise the singer will become hoarse again, continue to sing on the hoarse voice, get even more hoarse, the voice fails yet again, perhaps necessitating another voiceless period, speech therapist or operation.

Nodules

Hoarseness is the first sign of a singer going wrong. If you continue to be hoarse or suspect the development of nodules, get a diagnosis from a specialist.

If the specialist diagnoses nodules, whether they be permanent or developing, there are plenty of things you can do to avoid an operation.

Prevention is better than cure
so it the voice Is worn it needs rest!

Just like a blister, it needs rest to disappear. If you keep irritating the cords they will remain swollen. To get rid of a blister on the foot you should give the foot a rest by not wearing the tight shoes that caused the problem. Treat your vocal cords the same way. Do not speak, let the voice rest, and spend a few days writing little notes to the world.

A voiceless period

If you have been diagnosed with nodules on the vocal cords I recommend a voiceless period of a week or two depending on how developed the nodules are. By a voiceless period I mean DO NOT MAKE A SINGLE SOUND! Do not whisper because that tires the voice even more than ordi¬nary speech. And even avoid clearing your throat. Give the vocal cords a rest and write little notes instead. This method is very efficient and has no side effects. Many dis¬cover that it is actually a valuable menial experi¬ence not to speak for two weeks. You may find a whole new side to yourself.

If it is absolutely necessary to speak, do so clear¬ly, with plenty of support and a large, open throat. It is not a good idea to whisper or be 'cautious[1]. Often singers put more constriction on the voice by being cautious. They forget all about support¬ing the voice when they speak quietly. It requires

a lot of technique to speak **quietly in a correct** manner. It is better to add **a bit more sound and** remember to support well.

Relax the voice

You must avoid constrictions around the vocal cords even when you are not speaking or singing. This is also important when the voice is well. Try to relax, inhale deeply, and feel the throat opening up during the inhalation. Hold on to this openness when you exhale and be careful not to tighten the muscles around the throat.

Think positively

It is important not to be too worried about the vocal cords. The throat instantly reacts to our emotions. You know the sensations when you are sad: the throat con¬stricts, you 'get a lump' in your throat and lose control of the voice. Try to think positively and send happy, warm thoughts to the vocal cords.

Exercise while resting the voice

You should not have to sit still for a voiceless peri¬od. You may 'steam' the voice (see Steaming, page 207) and use the time to work on breathing and supporting exercises as these do not involve the cords directly. You *can* also work *on* body awareness and strengthening the muscles to sup¬ply you with the stamina to protect your vocal cords in the future. Be careful not to tighten the throat muscles during physical exercise. If you have been determined in your work throughout a voiceless period you will improve your singing technique more rapidly when you start singing again.

Starting again

After a week or two you should get a new diagno¬sis from the specialist.

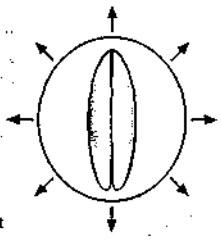
- If the nodules are gone you can start to exer¬cise the voice using the correct techniques to avoid problems in the future
- If small areas of the nodules or the swelling remain, you could try a further voiceless week until they are all gone
- Only in a few cases is an operation necessary but even if it is, a voiceless period will not have been in vain if you had worked on your tech¬niques during the time

Open throat

When the vocal cords are back to normal, either due to the voiceless period, speech therapist or an operation, you must learn to use the voice without the constriction that irritated the vocal cords in the first place. If you avoid these wearing constrictions and keep the throat open, it is possi¬ble to sing without ever ruining the voice.

Constrictions can be avoided by keeping the open throat. Imagine that you are creating a circus ring, a large opening, or a fortress wall around the vocal cords so they have room to stretch (see The Throat, page 45 and The Three Basic Principles, page 60).

The vocal cords can cope with extensive use for long periods of time but CANNOT endure working under the extra strain of constrictions.



An open throat

You can try a voiceless period - no singing, speak¬ing, or whispering for 10-14 days, after which most nodules have disappeared of their own accord. This is usually the fastest way.

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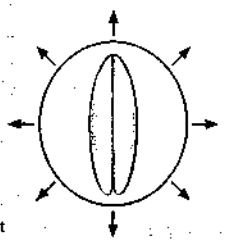


An open throat

Too much mucous

If a singer has too much mucous on the vocal cords, it may be because the mucous membranes of the vocal cords are irritated. When the mucous membranes dry out or become irritated, mucous is automatically produced to protect the cords. You must find the reason for this irritation - it might be due to an infection, an allergy, or constrictions.

Poor techniques

Constantly getting mucous on the vocal cords might be sign of incorrect technique. It is quite common for the voice to protect itself by producing large amounts of mucous, for example, after a strenuous performance. If you suspect your technique to be wrong you must remember the three basic principles: keep an open throat by using support, and avoiding tensions in the jaw and lips

Infection

At the initial stages of an infection you should avoid straining the voice. Sing and speak as little as possible and gather strength to fight the infection. Depending on how ill you are you might see a doctor and get a prescription for antibiotics. If at all possible you should avoid singing when you have a fever.

Allergy

If the singing sounds as it should, if the singer does not feel any discomfort while singing, if s/he does not feel ill or have any pain in the throat, then too much mucous might be caused by an allergy. Try to find the cause of the allergy. Perhaps you already have a suspicion. When did the symptoms start? What changes might be related to the symptoms? Try to eliminate whatever factor you think caused the allergy and observe if your condition improves. Try to find out what your system is sensitive to and avoid it. If the problem persists consult an allergy specialist.

'Morning voice'

When you wake up in the morning the voice often sounds 'woolly'. Maybe you have slept with an open mouth, drawing air back and forth over the mucous membranes all night. This might have dried out the mucous membranes. When you wake up and speak, the dried out mucous membranes cannot make the rapid vibrations which produces a sonorous sound, causing the sound to be husky and irregular - also known as the 'morning voice'. You should let the natural production of mucous take its course. The mucous membranes will soon be moistened and the voice will sound normal again. If you start to clear your throat and so 'scrape' the mucous off the membranes, they will only produce more to cover the exposed, dry area. This makes some singers clear their throat again, compelling the mucous membranes to produce yet more, which the singer 'scrapes' off again, and so on. The singer and the mucous membranes can keep each other occupied like this for the rest of the day.

Clearing the throat

When you clear your throat you 'scrape' the mucous off the mucous membranes of the vocal cords. It is not damaging to clear your throat. It can be a function of vital importance if mucous is entering the windpipe, but it might irritate the mucous membrane if you do it too often and too vigorously. Instead of clearing your throat to clear mucous let it remain there until it has covered the dry spots on the membrane. Go ahead and use your voice and disregard the woolly sound. Start by humming or speaking, carefully at first, and soon the rapid vibrations of the vocal cords will shake loose the excess mucous.

There is another safe way of making excess mucous disappear. Closing your mouth, and the nasal passage (or block the nose) and at the same time suck inwards and swallow. This creates a partial vacuum thai sucks the excess mucous off the vocal cords.

Prevention and Emergency Aid

Even though a singer's voice might sound as if it is worn, or perhaps completely disappeared, it can often be repaired within a few hours. A large part of my job is to perform Emergency Aid. This means I am called out to recording studios or con¬cert tours where singers needs help, either with technicaiiy difficult assignments or because they have acute vocal problems.

What needs doing depends on the circum¬stances. But first I ask the singer to see a spe¬cialist who can make a diagnosis by looking at the vocal cords, whether it be with a mirror or a fibre optic endoscope.

- Often the report from the doctor is that s/he actually cannot see anything wrong, even though everyone can hear the singer is hoarse and unable to go through with the concert. In this case, just a few hours of working on remov¬ing constrictions restores the sound of the voice as if nothing happened. The support, however, will require more physical strength. If the singer is strong and able to supply this extra strength there is no reason why the concert cannot go ahead.

- Often the vocal cords are inflamed and irritated but there are no signs of distinct wear. Also in this case releasing constrictions may allow the singer to get through the concert and thereby avoid further irritation of the vocal cords.

- Sometimes the voice shows distinct wear and the vocal cords are severely swollen, perhaps with developing nodules. There is not much that can be done as the vocal cords need rest! These days, doctors can, however use medi¬cines to reduce the swelling for the singer to get through a concert. It is not always recommend-able as the vocal cords ideally need rest, and the condition may be worsened. At best the problems is only postponed.

Even very experienced singers can suddenly cre¬ate constrictions around the vocal cords, some¬times to such an extent that s/he can not utter a sound.

A case story

I was called out to a studio where a singer had prob¬lems. As always I asked him to see a doctor before I came as there is no reason to spend money on Emergency Aid if the voice simply needs rest. However, the singer insisted that I come at once, even if it was to be in vain because it would take four hours to get there. In the meantime he would see a doctor.

When I arrived the singer had a photograph of his vocal cords and a statement from the doctor. The cords were not infected, but they were red and very swollen so I did not think I could help. The singer asked me to try anyway, seeing as I was there. We start¬ed with carefully removing the constrictions which tend to occur when the sensation or sound of singing is different than usual. It is important to remove these constrictions but I was not sure it would have a large effect.

After an hour the singer and producer said the voice sounded normal again and they could *continue* the recording. They asked me to stay during the rest of the recording so that we could work on removing the constrictions as soon as they appeared.

I must admit I was surprised that only an hour's work had that effect considering how the vocal cords looked in the photograph. I was even moTe surprised when the swelling disappeared in a couple of days.

This shows that it is not necessarily unhealthy to sing on swollen vocal cords as long as it is done cor¬rectly and you proceed carefully. Still, in general, I would not recommend it.

Emergency Aid over the phone

Sometimes there is not enough time to meet so we have to work over the phone. It is, however,

imperative **Hint I hive** worked with the singer before to b« **Ablft to** give Emergency Aid over the phono.

A CHNC **.story**

()nc night I was called from New York **became** *n* singer was hoarse and had an important conccrl, thltl evening.

It turned out he had become IKUIINP u1W flinging a particulary difficult phrase over and over in the stu¬ dio. As I had worked with (lie .linger before I knew his voice and strength so *we.* started working over the phone. We established (lie support and removed the constriction that had been worked in. After a short time the voice was *tree* of constrictions and was work¬ ing perfectly again.

We then went through the difficult phrase and found the modes which suited it best. We practised the exact settings for each mode - in this case it was the 'bite' in Overdrive, the twanging of the epiglottis fun¬ nel in belting, and the loose jaw in Neutral. A little later he was able to sing the difficult phrase and he completed that night's concert without problems.

The reason for vocal problems

Dried out mucous membranes, too much mucpus, and bad monitoring systems (loudspeaker sytems used on stage so the singer can hear her/himself) can give the impression that the voice is not work¬ ing as it should.

When the voice does not respond normally, the singer often compensates with greater tensions, which again make the voice sound unusual, which again can lead to constrictions. The constrictions further prevent the voice from working which causes the singer to create yet more constric¬ tions.

It is important not to go astray and start this vicious circle where techniques are replaced by constrictions.

The importance of physical strength

Often problems occur because a singer runs out of strength. If a singer starts getting tired on tour or during extended recording sessions, s/he will lack HID iiiicmmiiiy Mlronglh and energy to keep tho lliront opon imd support the notes.

Mnny nInijim; oxpurience this at the end of a ajtimtl. Wllh no more physical strength left the voluo (i)ll(juos. The accompanying constrictions put Itit1lior strain on the vocal cords and you have lo usn even more strength to sing which is yet more tiring. Typically, the high notes are the first to fail and the volume decreases.

If a singer does not remove these constrictions by having a good rest and gathering new strength, new tensions develop. The singer begins to feel hoarse and the hoarseness grows worse over the next few days. Finally the voice might be so con¬ stricted that Emergency Aid is needed to avoid cancelling the rest of the tour or the studio work.

Sleep

It is essential to get enough sleep, especially on demanding tours. Without enough sleep the vocal cords do not get time to regenerate or heal the irri¬ tation that might have developed. Sleep is also necessary for rebuilding physical strength vital to support.

How much sleep a singer requires varies. You must know and respect your needs if you want to survive a demanding period without harm.

Eating and drinking

Many singers are flooded with well-intentioned advice if they become hoarse: "a raw egg yolk with tabasco", "warm milk with honey (you know, honey lubricates so well)", "a few drops of ink taken in a glass of water", "definitely not choco¬ late", "always something hot", "always something cold" and so on. How is one supposed to know what works and what does not? It is not possible to try them all.

If you are familiar with anatomy you will know the vocal cords are at the top of the windpipe (tra¬ chea) and that everything you eat and drink BYPASSES the windpipe to enter the gullet (oesophagus). Food and drink, therefore, never come into contact with the vocal cords unless, of course, it goes down the wrong way and you

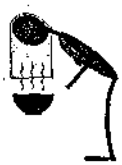
choke. I have heard many suggestions but I have never heard THAT suggestion! So it is not logical to suggest that food and drink should be used to lubricate the voice.

On the other hand, food and drink can have an effect on some singers. It could be psychological¬ ly relaxing or supporting. You are the best judge of whether it helps to eat or drink something or not. If you feel that it does, then go ahead.

Steaming

Breathing in steam means it goes straight to the vocal cords. If you are hoarse you may 'steam' your cords and mocous membranes by inhaling a hot bowl of camomile or other herbs such as thyme. See what suits you best.

Use a bowl, a large towel, and an alarm timer. Put a handful of camomile flowers into the bowl and pour boiling water over them (be careful not to burn or scald yourself). Set the timer for ten minutes at the most, put the towel over your head, and inhale the steam. Do not let the water cool off before you put your head above it, because within the first ten min¬ utes various ethereal oils, beneficial to the mucous membranes, are released into the steam. Inhale through the nose and mouth.



You must wait at least thirty minutes before speaking after the inhalation, as it is important to let the membranes rest. When you begin to speak, do it softly. Do not clear the mucous off the membranes (by clearing your throat). Let it stay even though the voice may sound funny. When the membranes are ready, they will loosen the excess mucous.

You may steam the vocal cords as often as you think necessary but remember not to speak for thirty minutes afterwards. Let the excess mucous remain until it loosens itself and stop the steaming approximately four hours before you have to sing.

Alcohol

Alcohol can **make** singing **more** difficult as it dilates blood vessels. After a major 'night out' the whites of your eyes often turn red because blood vessels that are not usually visible dilate and become visible. The blood vessels in the mucous membranes of the vocal cords also dilate and the vocal cords become slightly swollen. Some singers will experience this as increasing difficulty to reach high notes.

How much alcohol a singers can take before their mucous membranes swell varies. Some are aware of difficulties after just a couple of beers, while others seem to be able to drink inconceiv¬ able amounts without problems. You must get to know your limits and respect your body's signals.

Smoking

When smoke comes into contact with the mucous membranes of the vocal cords it irritates and tends to dry them out and increase the likelihood of developing constrictions. Avoiding smoke is dif¬ ficult in the music business, and again, how much singers react to smoke varies a great deal. I know singers who cannot tolerate a single cigarette and others who inhale cigars all day long, with no audible effect on their voices. You must know your limits and respect your body's signals.

I must emphasise that I do not recommend singers smoke but if you are a smoker, you should be aware that it is not necessarily an advantage to stop just before an important assignment such as a studio recording or a tour. In some cases, the ABSENCE of smoke may have a detrimental effect on the voice of a smoker. If the mucous membranes of the cords are continuously exposed to smoke they compensate by producing more mucous to counteract the drying effect of the smoke. The net effect is that there is a 'normal' amount of mucous on the cords. If you stop smok¬ ing just before an assignment the cords will con¬ tinue to produce the same amount of mucous but this will now be too much as there is no drying effect from smoke. Therefore there will be too much mucous and the cords will be harder to con-

trol. In other words, even though a singer may want to give up smoking in preparation for a demanding job it may be counter-productive.

Having said that it is important to stress that a non-smoker's voice is potentially healthier than a smoker's so there are defenitely advantages to quitting. You must be prepared to wait as the cords adjust to the new (non-smoke) conditions. This can take anywhere between a few weeks to three months.

A case story

A rocksinger got so hoarse during recording her new CD that she could not continue.

It turned out that she had stopped smoking just before the recordings to do her best. Because she had been a heavy smoker for years, the membrane reacted by producing a lot of excess mucous. During the recordings the extra mucous annoyed her and she compensated by changing her otherwise good tech¬nique. As a result she worked in a lot *of constrictions.*

We worked on releasing the constrictions by using more support to avoid tensions in her lips and jaw to keep the throat open. After a couple of hours her voice was back. She started smoking again so she did not have to concentrate on keeping her technique during the new conditions.

After the recordings she found a less stressful peri¬od where she could quit smoking.

Stick to correct techniques

The best you can do, whatever irregularities you are subjected to, is to stick to techniques you are familiar with and know work. Even if the voice does not sound normal keep using your tech¬nique. If you are becoming hoarse and the notes require double the normal amount of strength give them double the support and maintain the open throat feeling.

Likewise, if the monitoring conditions are bad, you should do as you usually do. Try not to sing more powerfully just because you cannot hear yourself.

Get used to singing more on the basis of the physical sensation of correct singing rather than what you can hear of yourself. That way irregular¬ities do not lead you astray.

Programme for Emergency Aid

It is important to be well rested and in good phys¬ical shape when the voice needs extra help. If the voice is worn or has disappeared, it is often due to constrictions in the throat. It is possible to remove these constrictions but be aware that the notes will require more support than usual until the con¬strictions have completely gone.

Balancing support and the open throat

Hoarseness is typically caused by an imbalance between support and keeping on open throat. It is important to restore this balance. With all exercis¬es you must 'listen' to your own sensations. If something feels uncomfortable or wrong then STOP immediately. Try again and find how to per¬form the exercise so it feels comfortable. It is okay for the exercises to 'cost' a lot of support energy but they should not feel unpleasant. If the work seems too strenuous then something is not quite right. If repeated attempts are unsuccessful, seek the advice of a professional teacher experienced in Emergency Aid.

Exercises fop breathing

First practise the diaphragmatic breathing exer¬cise by placing both hands on the lower ribs, one on each side. Exhale for a long time, heavily and unhindered and at the same time press the ribs inwards with your hands. Relax the pressure on the ribs while inhaling so the lower ribs and the solar plexus expand as much as possible but do not raise the upper part of the chest. The inhala¬tion must be calm and free and you should not pout. Let the movement of the ribs push out your hands. Notice how a bulge at the solar plexus appears. The abdomen around the navel should also expand slightly and should be neither helped nor hindered. Relax and exhale and notice how the bulge at the solar plexus disappears as the breath of air escapes. Repeat this exercise four times (see Breathing, page 17).

Support is as though working against a resistance,

To support a note adequately you must realise that support is a continuously dynamic phenome¬non and that the movements involved should be as through working against a resistance.

To illustrate this resistance raise an arm away from the body and feel the work of the muscles in the arm. Now do the same thing while someone resists the movement of your arm. You will be able to feel the muscles of the arm work much harder. Now raise your arm in exactly the same way with¬out anyone physically resisting but this time cre¬ate the resistance your¬self so that the move-ment requires more energy.

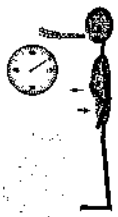
Note this work of the muscles. It is this work, as though against a resistance, that is the most essential compo¬nent of support.

Exercises lor supporting

Make a rocking movement of the support while holding your breath. Place one hand flat on the solar plexus and the other on the abdomen around the navel. Pull in the abdomen around the navel while the bulge at the solar plexus moves outwards. Alternate by rocking the abdomen and solar plexus back and forth. The movement is

quiet small but remember to create that resistance (see Support, page 23).

• Exhale, inhale and on the exhalation make a quiet 'sss' with your tongue. The 'sss' must be even. Notice how the bulge at the solar plexus gradually expands while you sustain the 'sss'. The bulge must not diminish and must be kept extended. Also keeping the ribs extended, gradually pull in the abdomen around the navel, pull in the lumbar region under the body, and tighten the muscles of the back. Maintain the sensation of holding back your breath as the air is gradually released. Practise the 'sss' until



you can make it last one minute (see Support, P[a]9[e] 23). @ 51a

Co-ordinating support and sound

The exercises for co-ordinating support and sound usually last 15 to 45 minutes. It is difficult to concentrate for much longer and, without due attention, the exercise might do more harm than good. If you begin to lose concentration take a break and continue the rehabilitation programme when you are ready.

Make soft,, quiet, low pitched and breathy sounds and at the same time make sure the support is active and 'as through against a resistance'. The bulge at the solar plexus or the muscles at the waist should be tightened gradually as the sound progresses. When the support dies out, the sound also dies out. Avoid vibrato and aim at making as even a tone as possible. Your neck and throat should be as relaxed as possible. The support alone should be producing the sound. Try to avoid any activity in the throat and do not attempt to 'assist' the tone. It is better to make *no* sound than an 'assisted' one. 51b

Now make the soft, quiet, low pitched, and breathy sound again but this time start the note WITHOUT support - and then produce an accentuation by adding support. Sustain the note with support. Make sure the support is 'as through against a resistance'/When the support dies out, the sound dies out. Allow no interference from the throat. Listen to the difference in the sounds. The accentuated part is more powerful than the first. Change vowels. ^ 51c

Put more accentuations into the note. Again, use no support at first but use it to produce the accentuations. Avoid interference from the throat. Divide your support to create several accentuations. Be sure to have enough support for each acentuation, especially the last one. @) 51d

Now make the sound more clear and less breathy. Slowly and gradually add more tone and maintain the co-ordination between sound and support. Allow no activity in the throat and economise your support in order to make it last throughout the notes. Begin the exercise with one accentuation and gradually make more, g) 51 e

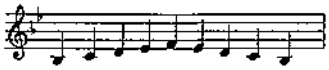
If you feel that your throat is beginning to constrict return to the first exercise of soft breathy sounds.

When the exercises with a clear sound feel pleasant and easy, move the accented note a little higher. Maintain the same co-ordination between sound and support as previously described and do not assist the pitch with activity in the throat. Again you must economise your support so there is enough for the pitch you have chosen. Gradually move higher up the scale. Begin by making one accentuation and gradually make more. Once in a while you should return to the soft breathy exercises to make sure you are not creating constrictions around the vocal cords. @ 51f

When the voice feels more easy and is able to produce a clear sound without any activity in the throat you may proceed with the normal training.

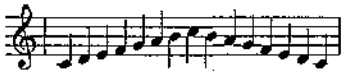
Exercises with vowels

Begin in the low part of your voice and sing up and down through five notes on the vowel EE (as in see) or U (as in you). Do not be too cautious, make sure the notes are supported and that you sing at a comfortably powerful volume. Use the vowel that seems easiest to make a clear sound. Maintain the co-ordination between sound and support with no activity or assistance from the throat. Again economise your support to make it last through all the notes. Save energy for the highest note so you have enough strength in this part to push the bulge at the solar plexus out a bit more. Gradually move higher up the scale and make sure all the notes have a good sound qual¬ ity- ® 51 g



A fifth scale

After this, sing up and down through an octave on the vowel EE (as in see) or U (as in you). Make sure all the notes are produced by support activi¬ ty and not the throat. Be sure to economise your strength to ensure there is enough energy for the high notes. Remember to sing clearly and do not be too careful. All the notes must have good sound quality and be as clear as possible. Move the exercise upwards by half a note at a time, g?) 51h



An octave scale

When EE (as in see) or U (as in you) have become clear and you are in control of the high notes, return to the exercise of five notes in a lower part of the voice and change the vowels to I (as in sit) or O (as in woman). Practise I (as in sit) and O (as in woman) by comparing their sound to the sound of EE (as in see) and U (as in you) and aim for the same non-breathy sound on the new vowels. Later practise EH (as in stay) and OH (as in so) and finally A (as in and) and AH (as in far). Finally, sing scales up and down through an octave on various vowels. Move the exercise upwards by half a note at a time. fl| 51i

Now the voice should be fine and sound as it used to. Notice, however, that the notes most likely require more support than usual.

Warming Up

It Is generally accepted **that** singers should do a good, long warm-up before singing to avoid dam¬aging the voice. It is debated how long that warm-up should be.

Warming up = brushing up technique

If you regard warming up as brushing up of tech¬nique then it makes sense.

Many singers build up their confidence by brush¬ing up their technique before going on stage. That is a good idea so long as you are doing it correct¬ly. Find and feel your support and an open throat, brush up the exact positions for the modes and the healthy ways to make effects, and get used to the sensation of healthy singing. Retain this sen¬sation for as long as you speak or sing.

This book does not contain a ready-made warm-up programme as it is up to the individual to judge which aspects of technique need brushing up.

However make sure the brushing up does not take so much energy that you do not have enough left for the concert. Most damage to the voice occurs when singers are tired and lack sufficient strength and energy to maintain the support and avoid constrictions.

Warming up is not essential

If you are in full control of your technique there is no reason to brush up just before singing. Many professional singers go on stage without a formal warm-up. There is no reason to feel guilty and think that it will ruin your voice if you do not warm up. In fact there is not that much to warm up. The muscles around the vocal cords are many and small and it does not take much to warm them up and stretch them, especially as they are encased in the throat and are kept at a constant tempera¬ture of 37 degrees Centigrade.

That's why if you take the expression 'warming up' literally it is not necessary!

It is of course a good idea to make your voice clear if there is too much mucous on the cords. Be sure to let any excess mucous remain on the cords until the throat can be cleared effortlessly rather than 'scraping' it off by rigorously clearing your throat (see Clearing your throat, page 204).

If you feel safer brushing up your technique before going to sing, please do so - but not for too long. Do not feel guilty if you go on stage without warming up.

Hearing your voice

Sound Inlluoncos tochnlque

There are many ways to hear your own voice; from the lively acoustics in a bathroom or the dry acoustics in a bedroom, to head phones or moni¬toring systems (the loudspeaker sytem used on stage so singers can hear themselves).

Most singers have a preference for the way they wish to hear their voice but often they are forced to use a different method. This can cause problems.

Hearing your voice in a setting you are not accustomed to can make you think it sounds dif¬ferent and therefore make you believe it is wrong. For instance, those used to lively acoustics will think their voice is different and wrong in dry acoustics. Those used to acoustic settings will find their voice strange when heard through a microphone and monitor system. Those used to loud monitor systems will find their voice different and wrong when heard acoustically.

These singers are deceived by the unaccus¬tomed sound and believe that something is wrong with their singing. They start compensating and changing their sound. They alter their technique and are in danger of triggering constrictions. If they do hoarseness is inevitable.

It is useful to be familiar with various ways of hear¬ing your voice and to know what you can do to prevent being led astray by the monitoring condi¬tions.

The sound of your voice

An audience will never hear your voice the way you do. The sound you hear is a mixture of inner and outer hearing.

Sound is vibrations. These vibrations can trav¬el through solid, liquid, or gas. That means when you hear your voice you are not only hearing the sound travelling from your vocal cords, into the air, and then into the ears (the outer route), but also from the cords, through the inside of the skull, to the ears (the inner route). This inner route is called bone conduction.

If you put your fingers in your ears you block off the sound travelling through the air. All you are left with - in other words all you can hear - is the result of bone conduction. The audience, obviously, do not hear the sound conducted through the bone, just the sound through the air. Therefore, you never hear your voice the way they do (as you can not take away the bone conducted sound) and they never hear your voice the way you do (as they do not have the added bone conducted sound). The audience only ever hear the outer sound and this is in influenced by the acoustics of the room, the type of microphone, the monitor system, and many other things.

Only you know the mixture of inner and outer hearing, that you consider your voice. You have become accustomed to this and therefore may be astonished when you hear a recording of your voice for the first time. "Uh, that's not my voice, that's not how it sounds!" Yes it is - to everybody but yourself!

It is important to be aware of what the audience hear when you sing. It often takes time to control the voice according to what the audience hear instead of what you hear. Therefore it is important you know and can control your voice, whether it be inner, outer, or a mixture of both.

Inner hearing

It is practical to learn how to use inner hearing because it is always to hand. Many singers have been advised to place a finger in an ear, if they cannot hear themselves while singing. The advice works because the finger shuts out the outer

hearing and thereby the sound of the other singers and instruments. The inner hearing now dominates and enables you to hear yourself. However, if you are unaccustomed to depending on inner hearing, there is *great* risk *of* singing out of tune.

A similar problem *can occur* when you wear earplugs. They have become popular as protec¬tion against hearing damage but they take time to get used to. Singing with earplugs effectively means singing without outer hearing and relying on inner hearing alone. This is usually difficult and there is a great risk of singing out of tune.

To sing just on inner hearing requires awareness of the difference between what you hear and what the audience hears.

To practise singing with inner hearing:
- sing with your fingers in your *ears*
- sing wearing ear plugs

Make a recording of your singing while *you* notice the sound of your voice. Then play the recording and be aware of the difference between what you heard as you sang and what you hear on^the recording.

Then sing *wearing ear* plugs or with fingers in your ears, record the singing, and again be aware of the difference between what you heard when you sang and what you hear on the tape.

Outer hearing

When you sing through a microphone and moni¬tor system, outer hearing is drastically amplified compared to inner hearing. This is why many singers, accustomed to singing acoustically, have difficulties when beginning to sing with a micro¬phone - they are not used to the strange sound of their voice.

To get used to listening with outer hearing as you practise acoustically you can:
- Place two large books in front of the ears
- Place your hands as cups behind the ears
- Sing up against a hard surface, for example, right in front of a *mïrror or window .*
- Sing into a bowl or a soup plate

It is very important to practise with a microphone if you have to sing with amplification, partly to learn to sing with outer hearing, and partly to prac¬tise microphone technique. Classical singers rarely use microphone technique as this gives sounds different to the accepted classical sound ideal.

To learn how to sing with outer hearing you can:
- sing amplified through microphone and monitor system
- sing amplified through microphone and head phones

Sing through a microphone and use a monitor^ speaker. Many factors influence what you hear. The choice of microphone, the quality of the mixer and monitor, the equalisation (setting of bass and treble), possible effects (reverb, delay etc), and the acoustics of the room.

Experiment with different settings on the equalis¬er and add effects to the recording so you get accustomed to the sounds. Listen to the recording through head phones to become aware of the dif¬ference in (he sound between that and the moni¬tor system.

Holding on to technique

Regardless of how you hear your voice, the best thing you can do is hold on to a technique that you know works - even if the voice does not sound as it normally does. You must continue using your good technique even when the monitoring condi¬tions are bad. By doing as *you normally* would and avoiding, for example, singing louder because you can not hear yourself, you will get accustomed to basing your singing more on the physical sensation of correct technique than sound. The physical sensations is always to hand whereas sounds will often differ.

Studio and live techniques

Adjust the singing to the conditions. There are major differences between singing acoustically, singing in a recording studio, or singing live with amplification. The reasons for this are many and include the varying volume requirements and the different monitoring conditions. For example, soft closure Neutral with air added to the voice is often used in a recording studio but it is usually not suit¬ ed to the stage. As a result the same song has to be sung in a different mode depending on the cir¬ cumstances. This usually only applies to rhythmic singers, as classical singers generally aim for the same sound in the recording studio as when they sing acoustically.

Acoustic singing

It is important and practical that singers know their voice acoustically. When you are accustomed to singing acoustically, you can practise anytime, anywhere, without being dependent on a monitor system. This can be practical on extended tours as you can easily check up on your technique. You do not have this advantage if you are only accustomed to singing with amplification. Here you might not discover any irregularities, until you are on stage. Practising acoustically also gives a safe feeling that you can create the sound without being dependent on microphones and various sound-production effects. If you are able to do thinnings acoustically, you have good technique. This is not necessarily the case with amplification. For instance, with amplification you can thin a note by moving the microphone away but this does not mean you can do it acoustically.

When you sing acoustically you have to bear in mind that not all volumes work equally well. Air added to the voice in acoustic singing, for exam¬ ple, just causes a blur from a distance whereas when it is mixed with the bass boost of a micro¬ phone it sounds intimate. All in all it might be diffi¬ cult to hear very quiet volumes from a distance and consequently acoustic singing can seem less dynamic than amplified singing.

When you sing acoustically you are influenced by the acoustics of the room. You also have to be aware that the acoustics of a room changes, when the audience enters. After practising for a long time in a room with lively acoustics, it might be difficult to sing a concert in a room with dry acoustics. In this case you have to be able to sing under different acoustic circumstances not to change your technique to compensate for the unaccustomed sound.

Singing in a recording studio

In a recording studio there are usually high quali¬ ty sensitive microphones which are able to pick up even the smallest volume and nuances. For this reason singing in a recording studio can resemble singing acoustically rather than singing with amplification. There are, however, essential differ¬ ences which are important to be aware of.

In a recording studio you can obtain larger dynamics and sounds by using the spheres of the microphone. Microphones give very different sound colours depending on how close to it you are. A skilled singer is able to use this deliberate¬ ly (see Microphone Technique, page 166).

Using heart phones

When you sing in a recording studio you usually have head phones as a monitor which means you hear your singing as *well* as the backing music

through Ilici IIIIIKI phonos. This requires practise If you nro mxuatomod to hoorlng your voice acoimtlailly. Through hond phones the outer honrlng dominates the Inner hearing. You can, however, compensate by removing the head phono from one ear and placing the cup behind the oar. This way one ear is free and able to hear your own mixture of inner and outer hearing, while the other can hear the amplified voice and the backing music.

Using a compressor or limIter

In recording studios high volumes are often con¬trolled so as not to overload the equipment and become distorted. This is done by compressors or limiters which can be set to different levels. Using such equipment takes getting used to as singers often find it strange to hear themselves singing quieter than they are. You should take great care not to try singing louder. The compressor or limiter will simply continue to quieten the sound and you might damage your voice.

A way to get used to a compressor or limiter is to practise with one. Or if you think it hinders your performance ask for the sound in the head phones not to be sent through the compressor or limiter.

It is also helpful to practise microphone tech¬nique and controlling your volumes so that the sound does not need to go through the compres¬sor or limiter.

Singing live with amplification

Avoid damage when singing live

When you sing live you generally have to sing louder than when you sing acoustically or in a recording studio. Therefore live singing often requires better technique and more physical ener¬gy. Many singers who are accustomed to singing in a recording studio, have problems with hoarse¬ness during concerts. To prevent this, it is often necessary to alter the modes used in the songs. This, of course, depends on the style of music.

Full metallic - method

A sure way to avoid problems in live concerts is to exclusively use full metallic modes. If you sing your songs exclusively in Overdrive and Belting you will not only achieve loud volumes but also do it safely as these modes work best at loud vol¬umes.

Also you do not have to fear that the songs lose their expression in the full metallic modes as what may be lost in nuance is made up for in outpour¬ing of energy.

Working out which modes to use requires new training. It is practical for singers to run through their repertoire and practise the parts where modes will have to be replaced. It is necessary to practise the new modes in realistic volumes - which means loud - to get accustomed to the con¬ditions before the live-jobs start.

A case story

A very skilled and experiences folk singer who sang a lot in recording studios, became hoarse on an extensive concert tour.

It turned out he had become accustomed to singing in Curbing from studio work and had contin¬ued to do so on the tour. In the concerts he had to use lager volumes and this was wearing to do in Curbing. We worked on releasing the constriction and after about an hour the voice was fine again. We then prac-

dsed the exact positions of Overdrive and Belting by means of the 'bite' and the twang of the epiglottis fun¬nel respectively. Then we practised directing the vow¬els towards EH (as in stay) and OH (as in so) in Overdrive and towards EE (as in see), I (as in sit), EH (as in stay), A (as in and), and OE (as in herb) in Belting as he sang higher. At first on very high notes he exclu¬sively used EH in Overdrive and I (as in sit) in Belting.

When he had perfected the modes, we practised replacing all the notes in Curbing with Overdrive and/or Belting. In order for him to get accustomed to the louder volume he sang with his backing music playing very loud. In this situation he could not be heard in Curbing so he was forced to use Overdrive and Belting.

When the singer replaced Curbing with Overdrive or Belting at the concerts he no longer had problems with his hoarseness or lack of volume. He could still sing more quietly by changing back to Curbing or Neutral whenever he wanted to. The rest of the tour went very well and he had no more problems.

One step up - method

Another method used when a louder volume is required - but not as persistently loud as in the previous method - is to move the mode and vol¬ume 'one step up'. For instance where you were using breathy soft closure Neutral in the recording studio use a more compressed Neutral, when singing live. Where you in the recording studio were using compressed Neutral use Curbing when singing live. Where you were using Curbing use Overdrive and Belting when singing live.

This method gives more room for nuance but is not as safe as using Overdrive and Belting exclu¬sively.

Sound check

It is important to make sure you have good moni¬toring. At a sound check it is essential to estimate the possibilities of the monitor system quickly and locate the best possible sound under the given conditions. A practical method is to always use the same pieces of songs, same choice of words, sounds, modes, vowels, and volumes every time you make a sound check. This way you are able to quickly recognise the sound of your voice and determine the differences from system to system.

Choosing microphone

As the microphone is a substantial part of many singer's performance it is important to choose the right type of microphone. When you use a hand¬held one you can use the spheres for working with volumes and sound colour. You will not be able to do this with, for example, a head-set microphone. When using a head-set microphone you have to control your volumes and vowels with greater accuracy. On the other hand a head-set micro¬phone can be advantageous if you are not accus¬tomed to using microphones because you avoid unwanted movements in and out of the spheres. A head-set microphone also gives the singer free¬dom to move around freely with both hands avail¬able.

There is a large debate (and disagreement) over which type of microphones are suited to which type of voice and style of singing. Experiment until you find the microphone/s you think suits you and your style of singing best.

Finally there are, aside from general microphone technique (see Microphone Technique, page 166), various ways of handling the microphone. Here you also have some advantages and disad¬vantages. Experiment with a microphone and find which sounds you can obtain. Some singers hold around the microphone head which can give a very special sound - but also risks feed back. Others, such as Ronnie James Dio, sing while covering the microphone with theirarm in order to create a cavity that produces a special sound. Experiment until you find what you prefer.

Improvisation and phrasing

Improvising is about making rhythmic and/or melodic changes to the original song.

Phrasing is about adding melodic or rhythmic 'decorations' to a short sequence of a song such as a word.

Rhythmic improvisations or phrasings are used to make changes to the rhythm of the song. Melodic improvisations or phrasings are used to make changes to the melody of the song.

Phrasings and improvisations do not have to be spontaneous but can be rehearsed. However, you can use rehearsed phrasings as the basis for spontaneous improvisation.

Many singers think improvising and phrasing are difficult and unsafe. Some even think that improvising and phrasing are natural abilities that you either have or do not have. They believe you cannot learn and therefore will never be a good singer or musician! This is nonsense! Improvising and phrasing can be learned with practise like everything else.

It can be difficult to start improvising or phrasing because singers, unlike musicians who play an instrument, cannot visually relate to where you are in a scale. For many it seems intangible to sing anything other than the melody because what are you supposed to sing!? Whatever it is it should at least be as good as the original melody, otherwise why change it!?

When they start improvising most people discover it is great fun to skate out on to thinner ice than when you sing as the song as is written.

Do not feel obliged to improvise

Although it may be fun for singers and musicians to phrase or improvise it does not necessarily mean it is fun for the audience to listen to. Personally I do not think it is particularly interesting unless the improvisation or phrasing is expressive.

Do not feel obliged to improvise or phrase. There is absolutely nothing wrong with singing the melody as it was written. On the other hand an improvisation or phrasing may, if it is expressive, be part of intensifying the overall experience of the song. It gives the singer an extra opportunity to add her/his personal touch.

Common methods

An important part of improvising and phrasing is to 'have been there before'. If during practise you have made some good phrasings and have worked these into your mucular memory you can combine these later to become an improvisation. This means that some of these phrasings will appear 'instinctively' and you can bring the rest to your voice at will. In time and with practise it is possible to create completely new phrasings on the basis of the phrasings you already know. Finally you might also be fortunate enough to be touched by good old divine inspiration.

Work and result with improvisation and phrasing vary from singer to singer.

- Some singers start by singing something casual and from this select what they like. Along the way they make it fit the chords
- Some singers adopt the phrasings of other singers and put parts of these together to create their own phrasings
- Some singers study music theory and start improvising on the basis of a theoretical harmonic overview (only a few)
- Most singers use a little bit of each method to create their own method

Beginning improvisation

There are many excellent books on improvisation theory that I recommend if singers wish to begin from a theoretical basis.

The methods described in the following pages are for singers who want practical, handy, and non-theoretical instructions - how to get started and what to do when you are stuck.

Do not worry about whether an improvisation is correct or not. A general rule which most singers and musicians agree on, is that if you think it sounds right, it IS right.

With the following exercises you will hear many notes other than the melody and may discover phrasings or improvisations that you like and may wish to store. It may help to record while practis¬ ing so you can reuse some of the improvisations and phrases you like.

Melodic exercises

Choose a song you want to improvise on and sing it as you know it. Now you can set yourself vari¬ ous melodic tasks.

Start all the melody tines with a note other than the original. From this new note it is usually diffi¬ cult to find your way directly back to the melody, so you have to take a musical detour. This is the first improvisation.

Finish all melody lines with a note other than the original.

Sing, for example, every third and fourth word on notes other than the original.

Both start and finish all melody lines on notes other than the original.

Melodic exercises with an instrument

Play a triad, a chord on an instrument such as a piano. Sing all the notes you hear in the chord in as high and low a pitch as you are able to. Play a new chord and sing in the same way. <§| 52(1)

Play a chord and sing ALL the notes you think go with it. Change the chord and repeat the exercise. <S> 52(2)

Play a chord on the piano with your left hand and use your right to play any note. Now sing this sin¬ gle note and change it until you think it suits the chord. Then play the same chord together with a new note, sing the note, and again change it until you think it suits the chord.

Go through all the notes in an octave. Some notes are easier to determine the direction of than others. On the difficult notes you might even feel like using several passing notes before you change to the note you think suits the chord. This is the beginning of improvisation.

When you have systematically gone through all the notes in an octave you do not have to fear singing wrong notes in an improvisation because you have practised directing all the notes home. Change chord and continue the exercise. ^ 52(3)

Play a chord, deliberately sing any random note beside the chord, and practise directing the note home. Change chord and continue the exercise the same way. |® 52(4)

Play a chord and sing partly the notes in the chord and partly notes you think suit the chord. Try to sing other notes to fill between the notes, creating small melody lines. It does not matter if you sing beside the chord, just try to direct it home again. Change chord and continue the exercise. ^ 52(5)

When you can control this you can change the chords in a rhythmic pattern, creating a rhythmic sequence, a groove in the improvisation.

Rhythmic exercises

Rhythmic improvisations or phrasings are used if you like to make changes to the rhythm of the song.

Rhythmic oxorclBns with an Instrument

Practise plnylng o percussion instrument as this will give you a clear idea of rhythm, a fine rhyth¬mic overview, and a good deal of rhythmic train¬ing. Practise with a shaker, tambourine, or some¬thing similar. Play a record, tape, or CD and play percussion to it.

It is an advantage for many singers to be trained in playing percussion instruments, as it is a supplement to singing - and not as easy, as it looks.

Rhythmic exercises with a metronome

Sing a song and be aware of where in the bar you are. Get accustomed to marking the various beats, for example, with different fingers so that the first beat is marked with the thumb, the sec¬ond with the index finger, the third with the middle finger and the fourth with the ring finger. Make a conscious decision to always know which beat you are on. Do this every time you listen to, prac¬tise, or play music, perhaps for a month or so. This will give you a good sense of measure. Do not give up. It will improve with practise.

Set the metronome to 60 beats per minute.^First. sing a note on all first beats and then practise' singing on all second, third, and forth beats in the measures. Once you are confident with this try to alternate between which beat in the measure you sing on. Practise with different speeds of the metronome. ^ 53(1)

Set the metronome to 60 beats per minute. Become familiar with all the upbeat/lifts. Practise until you are able to sing on all the lifts you decide on. Sing, for example, on all the 3-and beats. Alternate between singing on certain beats and upbeats/lifts. Also practise to be able to leave the note on certain beats and lifts. Practise with dif¬ferent tempi of the metronome. <§) 53(2)

Set the metronome to 60 beats per minute. Practise making pauses on certain beats or upbeats/lifts. Pauses are very important rhythmi¬cally. Practise in different tempi of the metronome.

Set the metronome to 60 beats per minute. Practise pausing, and start and finish melody lines on certain beats or upbeats/lifts. Design your own exercises. Practise in different tempi of the metronome.

Set the metronome to 60 beats per minute. Sing a song and clap or beat a fast subdivision of the tempo. Try to change parts of the melody so they suit the fast subdivision. Later do the same exer¬cise with a slower subdivision. Practise in different tempi of the metronome. ^ 54(1)

Set the metronome to 60 beats per minute. Sing a song and practise clap or beat both straight and triplet subdivisions of the tempo in the song. Try to change parts of the melody so it suits the straight and triplet subdivision. Practise in different tempi of the metronome. ^ 54(2)

Rhythmic exercises lor two

Practise the sense of measure by taking turns at improvising (this is called a 'chase'). The first per¬son starts improvising over, for example, two measures, then the other person takes over and improvises over the following two. The one who is not improvising can count the beats out loud, so you always know where in the bar (measure) you are. Find a mutual pulse and alternate between being the one counting and the one improvising. Alternate between systems for improvising such as using only eighths. Then use only quarter notes. Then only triplets. Then start after the third beat and so on.

Practise making longer and longer improvisations. At first over two bars (measures), then four, eight, and so on.

One person can sing long notes which, for exam¬ple, start and finish on certain beats, while the other improvises. Later these long notes can be developed into bass lines to what is being impro¬vised.

Advanced improvisation

Exercises in advanced melodic training

Many melodic improvisations and phrasings take their starting point in pentatonic scales (for exam¬ple, all the black keys on the piano) or blues scales. Therefore it might be useful to practise these scales.

Practise a pentatonic scale in major. Sing the first, second, third, fifth, and sixth step of the c major (c, d. e, g, a).

Then start on each note on this scale and sing up through the pentatonic scale in major (see dia¬gram exercise 1). Also practise singing down through the pentatonic scale in major from any note on the scale (see diagram exercise 2). g| 55(1)

Move the exercise to other keys.

Practise a pentatonic scale in minor. Sing the first, third, fourth, fifth and seventh step of the c minor (c, eb, f, g, bb).

Then start on each note on this scale and sing up through the pentatonic scale in minor (exercise 1). Also practise singing down through the penta¬tonic scale in minor from any note on the scale (exercise 2). gj) 55(2)

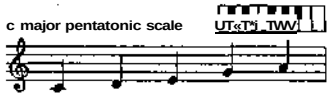
Move the exercise to other keys.

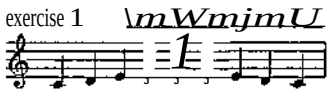
Then practise a blues scale. Sing the first, third, fourth, lowered fifth, fifth, and seventh step on a c minor scale, (c, eb, f, gb, g, bb).

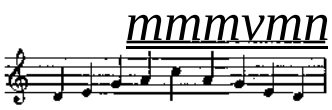
Then start on each note on this scale and sing up through the blues scale (exercise 1). Also prac¬tise singing down through the blues scale from any note on the scale (exercise 2). (gj) 55(3)

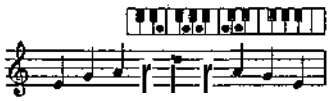
Move the exercise to other keys.

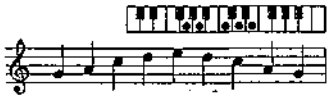
You can refer to the third, lowered fifth, and sev¬enth step as blue notes. Locate all the blue notes on a bluesscale. Practise to be able to hit right on the mark of a blue note and start melody lines on a blue note.

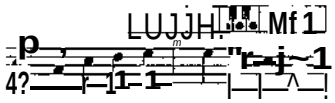




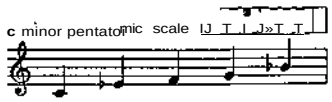




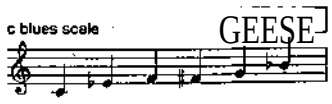




Change the starting note as in exercise 1.



Also make exercise 1 Bnd 2.



Also make exercise 1 and S.

Exercises for advanced rhythmic training

Some singers, for instance Dick Gaughan, achieve an advanced rhythmic, percussive way of singing by empahsising and varying the consonantsounds during singing. This, and the abrubt changes between the modes, creates advanced rhythmic lines and large range of dynamics.

Build up your sense of measure so at any time you know which form the song has and where in the form you are (for example, the A or B part of a song). Record an accompaniment with A, B, and C parts and practise singing to it. In the beginning you can record a small mark every time the period changes so you can hear where in the form you are. Later you can remove these marks and find your own way into - and perhaps also build up to - the various parts.

You can practise with others who play instruments so that you can check on each other's sense of measure. You may also practise alone to karaoke tapes (MMO = Music Minus One tapes, tapes with only music, no voice).

Practise by clapping or beating the rhythmic patterns of the phrasing or the improvisation. The rhythm should also sound good when isolated from the melody. This will give you better overview of the rhythmic side of your phrasings and improvisations.

Practise being at the front or the back of the beat. Record backing music for a song and sing along. At first practise singing exactly on the beat, then a little behind the beat, and finally a little in front of it. Notice the difference in energy and mood when being in front and at the back of the beat, gj 56

Speak through your songs rhythmically, perhaps make a mark in the text on every beat in the bar (measure). Decide where in the song each phrasing is to be placed rhythmically and melodically. Practise reproducing this.

Mix rhythmic and melodic improvisation

Finally mix the melodic and the rhythmic training in a free improvisation. Practise either with a metronome, or accompanying yourself, or ask someone to record various chords that you can practise to. There are, by the way, many good karaoke tapes (MMO = Music Minus One tapes) that you can practise to if you do not play any instrument.

Notice that you can gain a solid base by getting accustomed to listening (o the bass line, when you improvise.

Improvisation by moods

When you can control the melodic and rhythmic aspects of improvisation and phrasings you can practise creating improvisations and phrasings on the basis of certain moods.

Set yourself a task, for example, that your improvisation or phrasing must emphasise a happy expression and later an unhappy one.

The more experienced you become, the more nuance you can add to your expression, for example resignation, wonder, tired-but-happy, and so on.

Later examine if you have a subconscious system to intensify various moods. Perhaps you want to develop this system further. Try to find other means of expression, other than the obvious so that, for example, a happy mood is not only illustrated by quick tempo, scales in major, and tonally ascending movements - and an unhappy mood is not only illustrated by slow tempo, scales in minor, and tonally descending movements.

Interpretation and PerformanGe

Technique and expression

This book is mainly about technique. Not because I believe technique is the most important aspect of singing. Technique is merely THE MEANS by which to express yourself. I believe the most important aspect is EXPRESSION - to say some¬thing.

The techniques in this book are only tools for expression, the possibilities of sound with which to strengthen what you say. Therefore, while tech¬niques are important they are not the ultimate goal.

If technique dominates, singing often get less interesting. Artistic experiences are only created when techniques are used to express something.

Choose (or yourself

It is important the singer trusts her/his taste, feel¬ings, and judgement. Individuality is invaluable. Use techniques to aim for the expression you want. Try to find the tools which strengthen your expression, using your judgement and intuition. Do not be afraid of experimenting as it often reveals new sides to the songs.

Perhaps you should practise with other singers for mutual support and encouragement. Develop your expression and practise your ability to hit the mark. Others may suggest different possibilities of sound but remember it is your job to artistically choose what and how something is to be told. Trust your taste. You are the only one who should decide how you want to sound. And remember, the options you do not take characterise you as much as the one's you do take.

Many methods

The way singers work on expression vary, as do the results:

- Some singers are not aware of their expression
- Some singers use only their intuition and feel¬ing at that moment (some days it can be extremely intense while others is less convinc¬ing)
- Some singers use special methods to develop their expression
- Others use a bit of each method

Whichever method you use, it is advantageous to have worked on this part of your singing. As with improvisation and phrasing an important part of work¬ing with expression is 'to have been there before'. Once you get to know your tools for expression it becomes easier to convey the exact emotions.

Credibility

The greater effort you put into portraying the emo¬tions of the character of the song, the more cred¬ible the expression and performance. With this credibility the audience will follow you and become involved with the song. As they become more involved they will recognise situations from their lives that are comparable to the song and maybe see situations from new angles. In my experience, those performers who convincingly portray emotions give the audience an artistic experience, involving them so much so that they (consciously or subconsciously) build around the stories in their minds.

Sometimes it is not the story or even the exact expression that creates the experience for the audience. It may be a glance, a certain sound, a particular word, some subtle and perhaps sub¬conscious element that starts that special atmos¬phere which links performer and audience. However, this atmosphere is only possible if the performer portrays the emotions convincingly and

does not lout) Ihu story, Ihu **character,** and tho expression.

It Is Important you do not disturb the audience as thoy got Involved. Coming out of character or changing tempo, key, lyrics, or improvisations to onos that are not suited to the overall expression will tear the audience out of the experience and break the connection. This can be very frustrating for the audience and detract from the performance.

Working with expression

There are good books on expression that I rec¬ ommend singers work with if they would like to (see Recommended reading list, page 244).

Here I will go through a practical method which is efficient and easy to use. You can use it as a way to get started or you can use it to develop the methods you already have.

This is just a suggestion among many. You can either use it, use parts of it, change it, or, if the method do not work for you, forget it.

Analysing lyrics and melody

Translating

Usually to express lyrics you have to fully under¬ stand them.

If the lyrics are not in your first language, translate each word

Original wording:
Tilbageblik greedende eng"

Then translate the song line by line. Make sure you under¬ stand the lyrics and convert them into plain, everyday lan¬ guage. For instance, 'retrospect crying meadow' may be very poetic but it is not eas¬ ily understood.

Translation of each word:
Retrospect crying meadow
(lyrics can be very cryptic!)

Creato your own translation: 'When I look back on my life I remember crossing a meadow whilst cry¬ ing'. Of course, you do not sing the transla¬ tion. It is designed to help you understand the lyrics.

A translation **which might** giuo meaning:
"When I look back on my *life I* remember crossing a meadow whilst crying"

Translate each verse into everyday language, so you understand the verses one by one. Maybe when you put the lines together they do not have an exact meaning. Create a translation of each verse which is meaningful to you.

Finally make up your mind what the song is about.

Moods in lyrics and melody

Decide which moods the lyrics contain

Decide which moods the melody contains

Do the moods in the lyrics and melody corre¬ spond?

If they do not correspond find why. If the mood of the words are easy, light, and happy but the mood of the melody is heavy and dark, maybe the char¬ acter of the song is trying to portray a happy façade whilst actually feeling miserable

Know the story

Decide what the story is about. Base it on the translation and possibly the incongru- ent lyrics and melody (the lyrics may describe a happy event in someone's life or it may be told from the perspective of someone who is saddened by the events).

An example:
The story is about an unhappy person.

Invent the previous history of the events described using a lot of detail

The story:
The loved one of the *char¬ acter* moved out a week ago having found someone else

Build a current situa¬ tion around the event described in the lyrics, again with a lot of detail so the emotions are easier to imagine

The charactor is in doubt and alternates between wanting the loved one back or never wanting to see her/him again

Create the character

Create the character (the person singing) with so much detail that you feel as though you know her/him. Give her/him a sex, age, look, style, clothing, background, personality, name, and a job. You can even base it on some¬ one you know.

Creating the character:
Wendy, woman, 3D years **old,** normal apperance, a quiet type, smokes a lot, has lived with her boyfriend for 2 years

What is the character doing in the song? Talking? Thinking? Shouting?

talks **partly to herself and partly to a friend**

Who is s/he address¬ ing and are they pre¬ sent? A friend? A moth¬ er? A child? A lover? Herself/Himself?

tells the story to her friend

Why are the words said? For seeking comfort? In argu¬ ment? Because of overwhelming joy?

Wliuru nnd when are tho things being said? In a bed? In a street on a dark night? On a meadow at dawn?

sits halfdrunk and miser¬ able in her kitchen at half past one in the night talk¬ ing to her friend

Progression, turning points and subtext

Many lyrics go through a progression, have turn¬ ing points and subtexts

From the story create which events happen in each verse. Map the progression of the song and find the turn¬ ing points in the story. For instance the third verse may be the first turning point where the character falls apart and tells of how bad things actually are. The second turn¬ ing point may be the fourth verse where the character finds com¬ fort and sees a brighter future.

The progress and turning points:

1. Verse: Wendy starts with a superficial cheerfull- ness to hide from the friend how miserable she is
Subtext: 'Pretend; then she will probably leave soon'

2. verse: alternates between cheerfullness and rage
Sub text: 'How could he do it?'

3. verse: falls apart and tells how bad a state she is in

4. verse: gets comfort and starts to see the future more brightly

Find the subtext to each verse - in other words create a sen¬ tence to describe the feelings that underlie the verse. For instance, a verse may describe that the character of the song is trying to portray a happy fagade where the subtext may be. 'Pretend nothing is wrong; hopefully she'll leave soon'. Consider what you think the subtext to each verse is and use it to channel what you think is the right expression into the words.

If the lyrics say something you do not expect it could be because there is a hidden subtext. For instance, if the words go, 'It's great that you came, please come in' the subtext is what the singer

really means, 'Oh please go away, I don't want you to see me crying'. Make sure you recognise such lyrics and attribute the appropriate emotion to the words. At first it may help to consider the subtext of every single line. Later, consider whole verses or certain passages.

The specific work of the singer

The sound of the charactor

How would the character react *to what* has happened? Is our character hot tempered and shouts when s/he gets angry or more quiet and starts to cry heartbreakingly?

Wendy *is* a quiet personality who cries when she gets angry

How would the character with her personality and story express the subtexts, the progress, and the turning points in the song?

will be rather quiet also when she falls apart

Which modes, types of vibrato, attacks, pitch, and improvisations would suit the character and her/his expression?

will mostly use Neutral arid Curbing and very little vibrato

Which sound, pitch, volume, phrasing, words, and effects will our character choose? The better you know your charactor, the easier it becomes to choose what s/he would choose and the *more* credible the character becomes.

will not use many phrasings *or a targe range of* notes and no effects, not even when she gets angry

After all these decisions comes a large amount of experimenting, deciding, and practising the various forms of expression.

Mind of its own

Sometimes as you choose the mode and expression for a passage, the song seems to help you make the decision. Conversely, when you try to use different modes and effects for that passage you may find it difficult, if not impossible. Jn my experience there are certain passages that have a mind of their own and determine how they will be sung. They always ends up being sang in the same way, no matter how many different ways you try. If you respect this and allow yourself to be led by a song you might find a certain nuance or subtext or discover new angles to the story or the character that you missed the first time. By following the song you often get a better understanding of the lyrics and melody.

Corresponding with the band

There is little point in the singer attempting to convey the depth of despair if the band are playing with huge grins on their faces. It is important the band and the music correspond to the overall expression of the song. If the entire band works in unison, the expression is intensified and the audience is more likely to be captured.

Decide which genre of music, tempo, instruments, key, and form are best suited to the expression and the story.

Remember that some songs are 'loaded' in that the audience knows a version of the song. It is important that you know this version so that you are aware of the audience's expectations. Then you can decide whether you want to go with or against these expectations.

If the song has been recorded by others it may be inspiring to hear their expression. You might learn new sides to the story or the character which you might want to incorporate.

Calculate the charisma of the band. It might be difficult to convey tenderness and devotion, if the band is tough and unapproachable. Take into acount gestures and looks - some singers and musicians subconsiously grimace when they sing or play.

Make sure the musical idea in the solos corre¬spond with the expression. The solo could express the thoughts of the character, be the comforting friend, or a rousing speech to oneself. Maybe the turning point of the story is in the solo.

Make sure the whole band shares the emotion. Play to each other and develop each others ideas on the same story.

Performance

This content is meant as a **guide to new bands.**

Designate a leader

The singer may not be the leading personality of the group but during a performance s/he will be the focus of attention, effectively the leader of the band. This, understandably, can make some singers nervous. If this happens, concentrate on the songs and their expression. If *you are* heavily focused on the intricacies of a song there is little time to worry about the audience.

Make sure you have a designated leader during the performance. This may be vital when consid¬ering which song to perform next or sorting out small problems. Long breaks between songs can bore the audience. Even if the songs performed are amazing, the overall effect is that the concert will be boring.

Behaviour

Try not to worry about how you look. The audi¬ence will easily read that you are uncomfortable and that will detract from the performance. When the audience applaud, acknowledge and accept it, even if you are unhappy with your performance. Avoid stepping back after you have said some¬thing or performed a song. It gives the impression that you are disassociating yourself from what you are doing.

Be aware of what you do when you are nervous and stop yourself. Not only is it distracting when a performer continnuously plays with her/his hair or folds her/his arms but it also signals that you are uncomfortable and this is transmitted to the audi¬ence. The audience should always believe things are going smooth and as planned.

Where to look

Some people find it disturbing when a singer looks them straight in the eyes during a concert. Focus lightly on the back wall or at the foreheads of the audience. This will make them feel you are looking at them without it feeling too invasive or intimate.

If you make a mistake

Most of the mistakes you notice the audience will not. No matter how big a mistake you think it is, continue with the performance. Often the audi¬ence only notice because of the way the band react, if you continue even those who noticed will believe it was part of the performance. If you make mistakes with lyrics or melody, improvise; sing something else but keep the charactor, the story, and the expression.

Remember to enjoy it

Nervousness is a natural reaction to stressful sit¬uations where the body releases adrenaline (part of the so-called 'fight or flight' response). As well as making your heart beat faster, your body sweat, and your hands shake, the adrenaline ensures you are physically ready for the demands of the performance. So don't feel negative when you start getting nervous.

Usually the audience do not understand that musicians and singers are nervous about being in the situation they have chosen for themselves. There is no reason to be nervous if you have prac¬tised and know your performance. Remember the audience has come to hear what you are singing or playing.

Sometime! It takes the odge off the nervousness **If you think of why you are nervous?** What Is the **wont thing that can happen? And Is** It so bad that **four alone should spoil the moment for** you and **U10 nurllnnco?**

Do not lot It **get** the bettor of you. Remind yourself how hard you have worked to get this far. Now that you are here, go out and enjoy it!

Physical Exercise

The Idea of exercising

It is important for a singer to be familiar with the muscles of the body. Muscles must be maintained and strengthened but you must also be able to relax them. All this requires knowledge and con¬trol of your body. If you exercise often your will become familiar with your muscles and be able to quickly identify and remove unwanted muscular tensions.

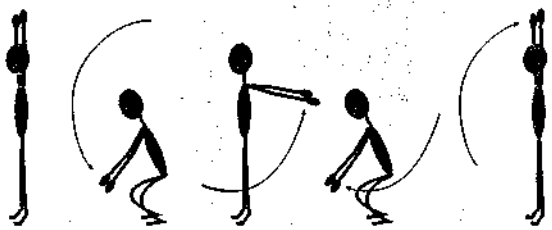
Remember, as with vocal exercises, if a physical exercise hurts or feels unpleasant or wrong, then it is wrong. Stop doing the exercise immediately.

Warming-up

Shake and stretch your body gently. Run or jump for about two minutes.

Stand with your feet shoulder-width apart. Stand up straight, swing your arms above your head, and rise to tiptoe. Then put your feet flat again, bend your knees, swing your arms down your sides, and bend forwards. Then let your arms swing back and stand up straight again. Do the exercise in a smooth, gliding movement, Repeat 8 times.

Stand with your feet about sixty centimetres apart. Point your feet outwards a little, stretch your right arm upwards as though trying to touch the ceiling while bending the right knee. Change sides and make the movement long, and dogged. Change sides 8-16 times.



Head

Slowly turn yum limul from side to side. Do this very slowly :;n iiti not to pull anything. Repeat 4 timoii on unch i:ulu.

Movo your left ear towards your left shoul¬ der. Lower the right shoulder simultaneous¬ ly. Feel a long stretch on the right side of your neck. Maintain the stretch and try to relax as you breathe out¬ wards. Change to the other side. Then change between sides in a smooth, gliding movement. Repeat 4 times on each side.

Bring your chin down towards your chest and roll your head slowly and CAREFULLY to the left in a smooth, gliding movement. When you reach as far to the left as possible carefully lift your chin and look up, your head still leaning to the left. Stay stretched, try to relax as you breathe out. Then bring the chin back down towards your chest and roll your head back to the right. Repeat the movement on this side. Repeat 4 times on each side.

Shoulders

The more relaxed your shoulders are, the more energy you have for other parts of the body. The shoulders are a vulnerable area and are often tensed during singing.

Stand with your feet shoulder-width apart. Lift both shoulders up to your ears, tighten them, relax them, and then lower them for just as long as they were tightened. Then try to push them down a little more and finally return them to their relaxed position. Repeat 4 times.

Stand with your feet shoulder-width apart. Place your right hand on your right shoulder, and your left hand on your left shoulder and point the elbows sidewards. Gently move your elbows in circles, first in small circles, then larger and then even larger, then make the circles smaller and smaller until they are still again. Start again but now make cir¬ cles in the opposite direction. Repeat twice.

Stand with your feet shoulder-width apart. Push your shoulders forwards and keep them there while lifting them up. When they are lifted as high as possible pull them backwards, still keeping them raised, and bring them togther at the back. Now lower them, keeping them as close as possi¬ ble until they are as far down as possible. Repeat a few times in a smooth, gliding movement. Then circle the shoulders in opposite direction.

The upper body

- The more flexible the upper body, the easier to the work with support.

Stand with your feet shoulder-width apart. Place your hands on your hips and keep the legs, hips, and head still. Move your chest gently forwards and the shoulders backwards and vice versa. Practise ONLY moving the chest.

Then CAREFULLY move your chest to one side and then the other a few times.

Now make a cycle. of these movements. Start by moving your chest for¬ wards, to the left side, then to the back and then to the right side. Make a circle gently with smooth movements. Do it in the opposite direction.

Abdomen

The strength and flexibility of the abdominal mus¬cles affect support so it is essential for singers to have as much strength and stamina in the abdomen as possible. At the same time it is important to learn how to relax these muscles, so they are not tightened all the time as this wastes energy. You must be able to tighten and relax these muscles at will.

When you practise support the idea is to control singing through the muscular strength and stami¬na achieved through these exercises.

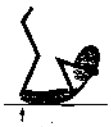
WHEN TRAINING THE ABDOMINAL MUSCLES YOU MUST ALWAYS REMEMBER TO AVOID DAMAGING THE BACK. KEEP IT STRAIGHT AND PULL THE PELVIC AREA IN AND UNDER THE BODY. MAKE SURE THE LOWER BACK IS ALWAYS ON THE FLOOR!

Lie on your back with your knees bent, your feet on the ground, your hands behind your head, and your elbows pointing out. Lift your shoulders and neck slightly, be careful not to pull your neck mus¬cles, point your nose down towards your chest, and at the same time push the lumbar region onto the floor. Feel how your abdominal muscles start to work. Find the point where they work hardest and make small movements - smooth contrac¬tions, NOT jerks - so the muscles really work. Train yourself to be able to make these small movements about 100 times. Take a break whenever necessary.

Repeat the same exercise with one leg raised off the floor pointing to the ceiling. You must feel your lumbar region pressing against the floor at all times. Again, lift your shoulders and neck slightly and be careful not to pull your neck muscles. Change legs and repeat the exercise. Train your¬self to be able to make these small movements about 100 times with each leg raised. Practise using the leg resting o. the floor as little as possible.

Repeat the same exercise but now lift both legs Do not straighten your knees. Make sure you knees are vertically above the body as this wi help keep the lumbar region against the flooi Train yourself to be able to make the small smooth movements - NOT jerks - about 100 times.

Lie on your back with your hands behind you head, your legs pointing towards the ceiling, am your knees slightly bent as before. Again, maks sure the lumbar region touches the floor. Positior the upper part of your body as before and lift jus your bottom off the floor. Remember to use a soft pad so as not to hurt your spine. Train your¬self to be able to repeat this about 20 times.



Lie on your back with your knees bent, your fee on the floor, and your hands behind your head. Lif one leg from the floor and lift the opposite elbow towards the raised knee. Repeat the exercise or the other side and again make small movements without jerking. Change sides and train yourself to be able to make the small movements about 50 times.

Stretching the abdominal muscles

It is important to stretch the muscles you are train¬ing.

Lie on your abdomen with your elbows on the floor, hands pointing forwards (Sphinx position).

Imagine you are pulling yourself forward by the fingertips until you feel the abdomen stretching.

Also lean to the side to stretch the oblique mus¬cles. Change side.

In this exercise the curve of the back is not to be straightened and you must not double up. Maintain the stretch and try to relax while you breathe outwards. Repeat this until you feel that your abdominal muscles have been stretched. You can do this exercise between the strengthen¬ing exercises.

The back muscles

The back muscles are as important as the abdom¬inal muscles. It is essential to have strong back to have strong support. It is important to be just as strong at the back of your body as at the front to avoid back problems.

Lie on your abdomen with your hands down by your sides. Keep the neck straight, do not bend it backwards, and lift the whole upper part of your body SLIGHTLY from the floor. Train yourself to be able to repeat the exercise 50 times.

When you wish to intensify the exercise repeat it with **the** back of your hands placed on your fore¬head. Train yourself slowly to be able to repeat the exercise 50 times.

Sit cross-legged on the floor with a straight back, hands resting on your legs. Start by bringing your chin down towards your chest without curving the back. Continue in a long, gentle, gliding move¬ment, rolling your head forwards and down towards the legs, letting the back follow vertebrae by vertebrae. Then slowly roll back up again, imagining that you are placing one vertebra on top. of another until the back is straight once more. Continue the movement, lift your head, keep the chest as high as possible. Stay there for a moment and then start again. Repeat the exercise 4 times.

Stretching the back muscles

Lie on your back and slowly pull both legs up to your chest. Maintain the stretch and relax while you breathe out.

Sit on the floor with your legs stretched forward. Place the sole of your right foot on the floor out¬side (on the left of) the left knee. Turn your body to the right, place your right hand on the floor behind you, and straighten your back. Perhaps put your left elbow on the right side of your right knee and look back over your shoulder. Maintain the stretch, try to relax as you breathe out. Change to the other side.

The lumbar region

The muscles of the lumbar region must be strengthened so they can assist the abdominal muscles in their work with support.

Stand with a straight back and approximately half a metre between your feet. Point your feet slightly outwards. Hold on to something and bend your knees a little. Pull your pelvis up under your body, as if you are pressing it in between your legs, and stay in that position for a moment. Bring your pelvis back to the normal position and then push it backwards, as if curving your back. Maintain this position for a moment and then bring your pelvis back to the normal position. Bend your knees a bit more and repeat the movements - normal, forwards, normal, backwards, normal. Then bend your knees a little more and repeat the movements here. Then straighten your knees a bit and repeat the movements here. Straighten your knees a bit more and repeat the movements here. Repeat this whole exercise 4 times. Shaking your legs in between if you need to.

Stretching the muscles of the lumbar region

Lie down on your left side with the left leg outstretched. Bend your right leg so the knee is on the floor and place the sole of your right foot on your left knee. Put your left hand on your right knee and your right hand on top of it. Now carefully move your stretched right arm in a circle stopping somewhere behind your head. Turn your head and look back at your arm. Maintain the stretch, try to relax while you breathe out. Try eventually to make your arm come close to and touch the floor. Lie in this position for a few minutes and then move your arm back the SAME WAY past your head. It is very important to avoid damaging the shoulder joints. Rest for a while before changing to the other side.

CD track list

Exercises for the three basic principles

(w) means (he exercise is sung by a woman
(m) means the exercise is sung by a man

1 0:01 Hum an octave (w)
0:10 Hum an octave (m)
2 Exercise with vowels
0:02 a Practise the vowel EE (as in see) (w)
0:12 b Practise the vowels I (as in sit) and EH (as in stay) (w)
0:30 c Practise the vowels OH (as in so), O (as in woman), U (as in you), and AH (as in far), (w)
1:05 d Practise changing between vowels (w)
3 Practise octave intervals (w)
4 Practise changing between consonants and vowels (w)
5 Practise attacks (w)
G Practise thinning and pianissimo (w)
7 Practise crescendo and decrescendo (w)

Exercises for sound colour (sung in Neutral)

8 0:02 Practise raised larynx (w)
0:10 Practise lowered larynx (w)
9 0:02 Practise projected epiglottis funnel (w)
0:12 Practise twanged epiglottis funnel (w)
10 0:02 Practise broad tongue (w)
0:07 Practise compressed tongue (w)
11 0:02 Practise singing with a smile (w)
0:08 Practise relaxed corners of the mouth (w)
12 0:02 Practise raised palate (w)
0:10 Practise lowered palate (w)
13 0:02 Practise open nasal passage (w)
0:09 Practise closed nasal passage (w)
14 0:02 Practise light sound colour (w)
0:11 Practise dark sound colour (w)
15 Practise flexibility in connection with the various parts of the voice, sound colours, vowels, volume, and tempi(w)

Exercises for the modes

16 Exercises in Neutral
0:02 a Scale of fifth (w)
0:09 Scale of fifth (m)
0:17 Scale of octave and triads (w)
0:48 b Exercise in raising the larynx (w)
1:01 c Singing in soft closure Neutral (w)
1:07 Singing in compressed Neutral (w)
1:11 d Neutral in classical singing (w)
1:32 Neutral in classical singing (m)
17 Exercises in Curbing
0:02 a Single notes on I (as in sit) (w)
0:27 Single notes on O (as in woman) (w)
0:50 Single notes on O (as in woman) (m)
1:10 b Vowels in Curbing (w)
1:32 c Curbing in the low part of the voice (w)
1:48d Scale of fifth (w)
2:04 e Singing in Curbing (w)
2:09 f Curbing in classical singing (w)
2:26 Curbing in classical singing (m)
18 Exercises in Overdrive
0:02 a Single notes on EH (as in let) (w)
0:25 a Single notes on OH (as in so)(w)
0:50 Single notes *on* EH (as in let)(m)
1:21 b Overdrive in the low part of the voice (w)
1:41 c Scale of fifth (w)
1:56 d Overdrive with dark sound colour (w)
2:11 e Singing in Overdrive (w)
2:17 f Overdrive in classical singing (m)

19 Exercises in Belting
0:02 a Find Belting (w)
0:12 b Single notes on I (as in sit) (w)
0:35 b Single notes on I (as in sit) (m)
1:05 c Vowels in Belting I (as in sit), EE (as in see), EH (as in stay), A (as in far), and OE (as in herb) (w)
1:16 d Belting in the low part of the voice (w)
1:32 e -Scale of fifth (w)
1:49 f Singing in Belting (w)
1:54 g Belting in classical singing (m)
20 Exercises in metal-like Neutral
0:02 a Find metal-like Neutral (w)
0:18 b Single notes in metal-like Neutral (w)
21 Practise-vowels (w)
22 Changing between Neutral and Overdrive (w)
23' From Overdrive to Belting (w)
24 From Curbing to Belting (w)
25 From Curbing to compressed Neutral (w)
2G Alteration of vowels in singing
0:02 Alteration of vowels in soft closure Neutral (w)
0:04 Alteration of vowels in compressed Neutral (w)
0:07 Alteration of vowels in Curbing (w)
0:09 Alteration of vowels in Overdrive (w)
0:12 Alteration of vowels in Belting (w)
27 Exercise at powerful volume (w)
28 Exercise at medium volume (w)
28 Exercise at quiet volume (w)
30 Exercise for crescendo (w)
31 Exercise for decrescendo (w)
32 Exercise for decrescendo and crescendo (w)
33 Exercise for crescendo and decrescendo *(w)*
34 Speaking in Neutral (w)
35 Speaking in Overdrive (w)
3G Speaking in Curbing (w)
37 Speaking in Belting (w)

Exercises fop the effects

38 Exercises in distortion
Find distortion
0:02 a (1) Find the noise (w)
0:12 (2) Imagine you are annoyed (w)
0:26 (3) Add distortion (w)
0:41 (4) Find the noise through sound (w)
1:10 b Add and remove distortion (w)
1:35 c Diminish distortion (w)
1:44 d Scale of fifth with distortion (w)
Distortion in various modes
1:52 e (1) In soft closure Neutral (w)
2:03 (2) In compressed Neutral (w)
2:12 (3) In Curbing (w)
2:19 (4) In Overdrive (w)
2:26 (5)In Belting (w)
2:33 f Distortion in singing (w)
2:38 g Transitions with distortion (w)
39 Full distortion (w)
40 Find rattle
0:02 (1) Add saliva (w)
0:13 (2)'rrr'(w)
0:18 (3) 'kkkrrr'(w)
41 Exercises in growl
Find growl
0:02 a (1)Kermit(w)
0:12 (2) Add growl (w)
0:23 (3) Darker growl (w)
0:33 b Find growl by means of sound (w)
1:00 c Growling 3 notes *up* and down (w)
1:05 d Change between growl and note (w)
1:12 e Growl in singing (w)
42 Exercises in breaks
0:02 a Break between metallic and non-metallic mode (w)
0:17 b Breaks in singing (w)
0:35 c Expand the interval in breaks (w)
0:50 d Scale of fifth with breaks (w)
0:57 e Break till no sound and back (w)

Emergency Aid programme

Exercises (or Improvisation and phrasing

Other exercises

57 Exercises for support value
- 0:02 a Support value for high notes (w)
- 0:12 b Support value for low notes (w)
- 0:30 c Support values for long notes (k
- 0:48 d Support values for pitch and time factor (w)
- 1:01 e Support values for volume (w)

58 Avoid breaks
- 0:02 a Avoid breaks due to failure of sup¬port (w)
- 0:44 b Avoid breaks on descending melod¬ic lines (w)

59 Practise flute register (w)

60 Practise being in tune (w)
- 0:02 If too high than the defined pitch you - change the note (w)
- 0:17 Higher than the defined pitch within a note (w)
- 0:28 If too low than the defined pitch you change note (w)
- 0:46 Lower than the defined pitch within a note (w)
- 0:55 Change high pitch into the define pitch (w)
- 1:06 Change low pitch into the defined pitch (w)

61 Exercise removing a tremolo (w)

Various sounds

62 Pronunciation
- 0:02 a Tongue too relaxed (w)
- 0:08 b Merged sound (w)
- 0:18 Vowels in the low part of the voice, not merged (w)
- 0:27 Vowels in the middle part of the voice, merged some (w)
- 0:37 Vowels in the high part of the voice, merged (w)
- 0:45 c Constricted vowels (w)
- 0:59 d Consonants too relaxed (w)

63 Opening of the mouth too large (w)

64 Ending the note (w)

65 The various parts of the voice, registers
- 0:02 a Chest voice (w)
- 0:12 Chest voice (m)
- 0:19 b Mixed register (w)
- 0:28 Mixed register (m)
- 0:37 c Head voice (w)
- 0:48 Falsetto (m)
- 0:57 d Flute register (w)
- 1:13 Falsetto (m)

66 Unintentional breaks
- 0:02 a Breaks caused by muscular ten¬sions (w)
- 0:08 b Breaks caused by failure to support, falsetto (m)
- 0:17 c Breaks caused by change of mode (w)

67 Vocal Flageolet
- 0:02 (1) Above the high c (w)
- 0:06 (2) Below the high c (w)

68 Splitting (w)

69 Glottal attack (w)

70 Simultaneous attack (w)

71 Breathy attack (w)

72 Pianissimo and thinning (w)

73 Clapping test (w)

74 Position of the larynx
- 0:02 a Lowered larynx (w)
- 0:14 b Raised larynx (w)

75 Shape of the epiglottis funnel
- 0:02 a Twanged epiglottis funnel (w)
- 0:11 b Projected epiglottis funnel (w)

76 Position of the tongue
- 0:02 a Compressed tongue (w)
- 0:16 b Broad tongue (w)
- 0:33 c Twanged vowels (w)

77 Shape of the mouth
- 0:02 a Relaxed corners of the mouth (w)
- 0:12 b Extended corners of the mouth (smile) (w)

78 Position of the palate
- 0:02 a Raised palate (w)
- 0:13 b Lowered palate (w)

79 Position of the nasal passage
- 0:02 a Open nasal passage (w)
- 0:07 b Closed nasal passage (w)
- 0:12 c Nasalisation (w)

80 Microphone
- 0:02 a Consonants with puffing sound (w)
- 0:12 b Consonants without puffing **sounds** (w)

81 Microphone spheres
- 0:02 a Microphone sphere 1 - Bass boost (w)
- 0:14 b Microphone spheres 2 -Actual microphone **area** (w)
- 0:30 c Microphone spheres 3 - Acoustic sound (w)

82 Click-sound (w)

83 Curbing
- 0:02 a Sound of Curbing (w)
- 0:10 b (1)The 'hold'(w)
- 0:20 (2) Plaintive sound (w)
- 0:25 (3) A stereotypical Italian from an American movie (w)
- 0:30 (4) An overly tired child (w)
- 0:36 c (1) O (as in woman) and I (as in sit) in Curbing (w)
- 0:43 (2) AH (as in far) in Curbing (w)
- 0:45 (3) I (as in sit) and U (as in you) in Curbing (w)
- 0:50 (4) EH (as in let) and OH (as in so) in Curbing (w)
- 0:54 d (1) Dark sound colour in Curbing (w)
- 0:59 (2) Light sound *colour* in Curbing (w)

84 Find Overdrive
- 0:02 a (1) EH (as in let) (w)
- 0:07 (2) Find Overdrive through sound (w)
- 0:39 b Vowels in Overdrive (w)
- 0:46 c (1) Dark sound colour in Overdrive (w)
- 0:49 (2) Light sound colour in Overdrive (w)

85 Find Belting
- 0:02 a (1) Sharp and snarling sound (w)
- 0:08 (2) Find Belting through sound (w)
- 0:49 b (1) I (as in sit), EE (as in see), EH (as in stay), A (as in far), and OE (as in herb) in Belting (w)
- 0:59 (2) U, O and OH in Belting (w)
- 0:04 c (1) Light sound colour in Belting (w)
- 0:07 (2) Less light sound colour in Belting (w)

86 Find metal-like Neutral from Neutral
- 0:02 a (1) Find metal-like Neutral (w)
- 0:12 (2) Metal-like Neutral on **high notes** (w)
- 0:22 (3) NG to a note (w)

Find metal-like Neutral from Curbing
- 0:30 b (1) Diminising the'hold'(w)
- 0:43 (2) In a quieter volume (w)

87 Classical vowels (w)

88 Assisting mode (w)

89 Hammer vibrato (w)

90 Diaphragmatic vibrato (w)

m Laryngeal vibrato (w)

92 Different uses of vibrato (w)
- 0:02 Start without vibrato and **gradually** add it towards the end (w)
- 0:11 Making the vibrato faster (w)
- 0:20 Making the vibrato slower (w)

93 Tremolo (w)

94 Repeat the exercise starting half a note higher each time (w)

Glossary

Abdomen 19, The portion of **the** body between the diaphragm and the pubic bone

Accentuated legato, To give the note a small run up

Acoustic singing 215, Singing without electrical amplification

Active support 29, The physical process required to control breathing. The bulge at the solar plexus moves outwards, while the abdomen around the navel is moved inwards

Air added to the voice 186, An effect you can add to soft closure Neutral

Alteration of vowel 134, Modifying one vowei to another in order to establish and maintain a mode

Anatomy, The science concerned with the physical structure of an animal

Articulation, Pronunciation

Arytenoid cartilages 4\, Two triangular pieces of cartilage attached to the vocal cords. The arytenoid cartilages regulate pitch as well as the opening and closing of the vocal cords

Assisting mode 137, A mode used as an intermediate when changing a sound from one mode to another

Bad intonation *67,* Singing *out of* tune

Bass boost 167, An amplification of the lowest frequencies

Belting 112, A full metallic mode, often used on loud volumes

'Bite' 104, A way of holding the jaws to obtain Overdrive

Breathy attack 57, Air is released through the vocal cords, before they assemble for sound-production, as on an **'H'**

Cartilage, Strong, elastic tissue

Case story, An true example of the educational process

Character 225, The Person in a song

Chest voice 63, An area of notes. For women below c1, for men below cO

Classical vowel 133, Vowels as they sound in classical singing

Closed phase 42, When the mucous membranes of the vocal cords come together during sound-production

Cnoedle 179, Indication of singing with raised larynx and lowered back of the tongue

Coloratura 197, A fast, rhythmic, and melodic sequence of notes, used in classical singing

Compressed Neutral 82, A variation of the Neutral mode where the vocal cords are held together tightly

Compression, To squeeze something together

Compressor/limiter, An electronic device for reducing the amplitude (volume)

Consonant, Any letter other than a vowel

Creak 192, An effect, a slight distortion. Produced by singing **a** metallic mode without sufficient support so that the voice is quiet and trembles

Constrictors of the throat 45, Muscles that tightens the windpipe and therefore restricts the normal working of the voice

Crescendo, A gradual increase in volume

Croon, An especially sentimental, popular/easy listening styte of singing

Cricoid cartilage 41, A ring of cartilage found at the top of the windpipe

Curbing 91 A half-metallic mode, often used at medium volumes

Decrescendo, A gradual decrease in volume

Decibel (dB), A measuring unit for the volume of sound

Diaphragm 17, The large, dome-shaped muscle of the midriff that controls breathing

Diaphragmatic vibrato *194,* Pulsations on the note produced by the diaphragm and supporting muscles

Direction of vowel 96, To make a vowel sound similar to another without overtly changing it. Used to establish and maintain a mode

Distortion 170, An effect, a 'noise' that can be added to a note, conveying a wide range of emotions

Dynamics, Differences in volume

Economising, To limit and reduce waste, therefore maximising

Edge 74, Definition of a metallic sound

Epiglottis funnel 154, The quadrangular membranes which form a small funnel shape above the vocal cords between die epiglottis and the arytenoid cartilages

Emergency Aid" 205, Immediate, on-the-spot assistance given to solve vocal problems

Exact position of a mode 76, The correct positioning of the vocal tract so that a mode is healthy for the voice. In this position sound-production is optimised and energy-efficient

Even, Regular (of volume or sound colour)

Falsetto 63, An area of notes. For men above c1. Equivalent to the Head voice and Flute register for women

False folds, Folds of mucous membrane positioned above the real vocal cords

***Feed* back,** Heard as a high, whining sound. It is produced when a sound from the microphone is amplified by a loudspeaker and caught again by the microphone, amplified again, caught again and so on

Flute register 64, An area of notes. For women above c3

Full distortion 17li, An rllîrt, when so much 'noise' is added in a note thill only ihc noise remains

Full metal 74, A denomìnation for a large amount of metal In the sound of tlir voice. imcd in Overdrive ;tnd Belting

Fifth, Five notes

Fibre optic endoscope 200, A thin, flexible cable *of* fibre optic fthreH capable of transmitting images from within the body to a monitor

Forte (f), Powerful volume

Fortissimo (ff), Very powerful volume

Glottal attack 56, The vocal cords are assembled before sound-pro¬duction, and are blown apart as sound is produced

Grid 198, A controlled underlying rhythm or pulsation that can be applied to, and exhaggrated in, notes as a means to establish orna¬mentations. The grid is the backbone of ornamentation technique.

Groove, A repeated rhythmic pattern

Growl 179, An effect, a rough distortion, only used in the lower part of the voice

Half metallic 74, A denomination for a smaller amount of metal in the sound of the voice. Used in Curbing

Hammer vibrato, Vocal cord vibrato 194, Vibration of the vocal cords, Can be perceived as a sustained series of glottal attacks sounding like a machine gun or a blearing sheep

Head-set microphone 213, A microphone attached to the head at a fixed distance from the mouth

Head voice 63, An area of notes. For women between c2 and c3. Equivalent to the falsetto for men

Hertz (Hz), A number of complete pulsations/vibrations per second. A unit for pitch

Hidden incorrect support 32, The abdomen and solar plexus are both pushed outwards, even though the abdomen seems to be pulled in

• ***Hold'** 92, A method for obtaining a half metallic mode. Used in Curbing

Hoarse attacks 192, An effect. A slight distortion on the beginning of a phrase

Improvisation 218, Rhythmic or melodic deviations from the original song

Incorrect support 32, Both solar plexus and abdomen around **the** navel are pushed outwards. Also see Hidden incorrect support

Inner hearing 213, The sound of the voice conducted to the ears through the bones of the skull rather than through the air. Can be isolated by singing with your fingers in your ears

Interval, The distance between notes

Intonation, Fine adjustment of the pitch

Latissimus dorsi 26 The large muscle of the back located between the underarm and the hipbone (ilium)

Larynx 40, The Adam's apple, where the voice is located

Laryngeal vibrato, throat vibrato 195, Pulsations caused by the larynx moving up and down rapidly

Legato, Constant sound-production without audible pauses between notes

Lift, A sub-division or off-beat between full beats or on-beats

Ligaments 42, A tough tissue that connects between two **bones**

Loose jaw 81 Preferred position of the jaw for the Neutral mode

Merged sound 52, The merging of the vowels in the higher part of the voice, necessary to establish and maintain a mode

Mixed register 63, An area of notes. For women from c] to c2, for men from cO to cl

Metal-like Neutral 87, A variation of compressed Neutral in which the sound becomes metal-like

Metronome, A mechanical instrument to indicate tempo

Mezzo-forte (mi), medium powerful volume

Mezzo-piano (nip), medium quiet volume

Middle part of the voice, Approximately between cl and gl for women, and cO and gO for men.

MMO, Music Minus One, Practise tape/CD with backing music only

Modes 74, Specific techniques for singing based on volumej pitch, and sound colour. There are four modes: Neutral, Curbing, Overdrive, and Belting.

Monitor, monitoring, Sound is amplified and relayed bade to the singer via loudspeaker or head phones. This mechanism enables a per¬former to regulate her/his performance.

Mucous membrane 40, A thin, moist covering of internal surfaces that produces mucous

Mucous 204, A slimy, protective liquid, moist from the mucous mem¬brane

Nasality, Nasalisation 163, The sound a voice acquires when the nasal passages are opened during singing or speaking

Neutral 80, The non-metallic mode

Natural support 29, The instinctive muscle control that follows inhalation

Nodules on the vocal cords 202 , A term given to when there are two permanent, hardened areas, one on each vocal cord, opposite each other

Non-metallic 74, The sound of the voice without metal. Opposite to metallic

Octave, Eight notes. A doublìng of the hertz. Twelve halfhots. The same note higher or lower.

Open throat (pharynx) 46, When there are no constrictions on the throat and the vocal cords can vibrate freely

Ornamentation technique 197, A technique used for producing very fast, rhythmic, and melodic sequence of notes.

Outer hearing 214, The sound of the voice that travels to the cars through the air rather than through the bones of the skull. Also see inner hearing.

Overtlrive 102, A full metallic mode, often used for loud volumes

Overtones 85, Any tone that contributes to the overall sound and li:u a *frequency* that is a multiple of the central tone

Oedcmu 200, A collection of fluid in tissues producing swelling

Oral 165, Pertaining to the mouth (closed nasal passages)

Phrase, A short, continuous part of a melody.

Phrasings 218, An interpretation (rhythmic and melodic) of a **short** sequence.

Pianissimo (pp), Very quiet volume.

Piano (p), Quiet volume.

Partial vacuum (low pressure), An air pressure that is lower than that of the surroundings. A partial vacuum will draw things into it

Pull in the lumbar region 26, Straightening the curve of the back and pulling the bottom in between the legs while tightening the abdominal muscles. The natural curve of the back is diminished.

Rattle 178, An effect you can add to distortion.

Register 63, A division of notes

Resonance 235, A vibration in a note

Renaissance, A cultural epoch, between yean 1300 and !600

Scream 189, An effect. A sudden, often ferocious, loud, and high-pitched note in a mode.

Simultaneous attack 56, The vocal cords come together gently as the sound begins.

Soft closure Neutral 81, A variation of the Neutral mode where the vocal cords are sofdy closed together

Solar plexus 20, The highest point of the front wall of the abdomi¬nal cavity where the ribs no longer attach to the breast bone

Sound colour 152, The sound of the voice, light, dark ect.

Speech therapist 201, A professional trained in solving a multitude of problems relating to the throat, including speech and swallowing

Split, splitting 65, A malfunction of vocal production sounding like two notes sung simultaneously. An uneven and often breathy sound.

Stretching of the vocal cords 44, The stretch that is necessary for the cords to reach a higher note

Sub-dividing 220, To break something, such as a note/rhythm into small, equally-sized parts

Sub-register 64, A part of the voice or area of notes below the Chest voice for women and men.

Support 23, The work and movement that controls the flow of air to and from die lungs

Support vuluc 'Hi, A unit measuring the physical work of support

Tempo, tempi (plural), The speed of the rhythm

Thinning 5(1, A gradual weakening of the note without loss of sound quality.

Three basic principles 60, I) Open throat 2) Support 3) Avoiding muscular tensions in jaw and lips.

Triads, A note and the **third** and fifth note ahove it.

Tilt, Metal. A denomination for a certain amount of metal in the sound of the voice.

Transpose, transposing, To change into to another key. Repeating the exercises in another key.

Triggers of constriction, A tightening of the jaw or lips that can cause constrictions around the vocal cords

Thyroid cartilage 41, The front shield of the larynx protecting the vocal cords. This is what is felt when you touch the Adam's apple

Tremolo 196, A malfunction in singing. A rapid quiver in the voice, resulting from a failure to support

Twang 83, A sharp piercing sound created by twanging the epiglottis funnel

Unintentional distortion 170, Unwanted distortion, scratching, or jarring sounds on the note

Velum palatinum 162, The soft part of the palate, the hindmost part of the 'ceiling' of the mouth cavity

Vibrato 194, A vibration on a note

Vocal break 182, An effect, an abrupt change of sound often between two modes

Vocal cords,, vocal folds 40, Two ligaments that produce sound by vibrating

Vocal flageolet 64, A muscular compression diat prevents part of the vocal cords from vibrating making it possible to reach higher notes

Vocal tract 152, The mouth cavity from the larynx to the opening of the mouth, including the nose

Vowels 50, The letters of the alphabet a, e, i o, u, y, which form open sounds

Wagner singers 24, Wilhelm Richard Wagner was a nineteenth century German composer famed for the invention of'music drama'. Wagner singers are diose singers who sing in that style

Yodelling 183, A singing tradition from Switzerland and Tyrol where you make rapid changes between metallic modes and non metallic

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