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THE GONE

PLACED AND DEVELOPED



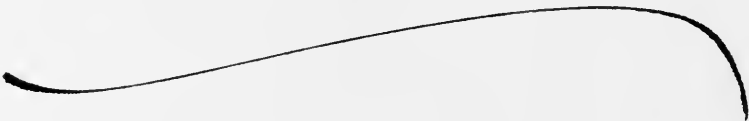
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The Tone

Placed and Developed

By CARL PREETORIUS

CHICAGO:
FAULKNER-RYAN CO.
1907

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JOSEPH F. SHEEHAN
OPERA CO.

To the Reader.

After a thorough reading and careful consideration of Mr. Purton's book I feel it a pleasure to endorse his unusually successful effort.

The pages are full of common sense regarding the vocal art and the manner in which he has handled his subject is capital. It is a clear and concise expo-

sition that will aid every student of the art who reads it. It sets aside the difficulties which usually remain unexplained and consequently become a permanent hindrance to correct placement.

This book marks an epoch in the teaching of singing in - that for the first time an author has harnessed science to tone development. I believe the singing public will take hold of these chapters with the same eagerness that I did.

Mr. Perretius has shown scientifically what tone is and how to produce it. He has also originated a theory in what he calls "the element of tone." He has here given the tonal art - a push forward for which the entire public should be grateful.

Not only does he show the scientific basis from which tone should develop in a unique and refreshing way but also how the tone may be beautified through what he calls "the rounding of

tone," until the voice
becomes a true medium
of expression

In going over the manu-
script I was struck
forcibly with the
simplicity with which
the analysis and expo-
sition were handled.

The greatest truths of nature
are the simplest. The
keynote to the vocal art
is what the author
ingeniously calls
"lip service." In this
principle I believe he

has given us that which
will revolutionize the
teaching of singing.

When Mr. Crotonius speaks
of the sharp sound as
the power that carries
he has his eye upon a
truth. This is well
augmented with a
succession of syllables
the pronunciation of which
makes the vocalization
of breath a natural
result.

Although there are a
few minor points

upon which I cannot
fully agree, I do believe
that this little book
makes an intricate
subject simple.

Fortunately Mr.
Perkins has published
a series of three exercise
books in which he
shows how the principles
may be practically
applied to a set of
vocal studies. A work
of this kind not only
merits the attention
of every one interested

in raising the standard
of the art of singing
but - also enables a
student - to fulfill the
desire for which he
has set his aim.

Sincerely yours
Joseph H. Fisher

CONTENTS

	PAGE
Preface	5
I Introductory—Scientific Analysis of Sound	
Waves	11
II Analysis of Tone. What Tone Is. Acoustic Properties	17
III The Value and Training of the Ear	31
V The Placement of Tone—(a) Value of the Lips. (b) Training of the Lips. (c) How This Affects Tone. (d) Vocalizing Breath. (e) Development of Tone. (f) The Rounding of Tone. (g) The Different Tonal Qualities and Syllables to Effect These	35
V Timbre and Quality—Division of the Voices	57
VI Assimilation of the Voice	61
VII Crescendo and Diminuendo	77
VIII Vibrato	83
IX Portamento	85
X Coloratura	85
XI Sotto Voce	87
XII Trill	97
XIII Wordal Placement	101

PREFACE.

Much has been said of the old Italian method of singing. The musical quality of the language and its adaptability for the ready expression of the vocalist is freely acknowledged. Still, the fundamental reason why the old Italians, preferably to the other nationalities, came to be called the maestros is to a great extent overlooked. The Italians, they say, possessed the natural way of singing, but just how their maestros could bring about this natural production of tone, I have nowhere in the limited literature of the vocal art found fully explained.

Mercadante was, perhaps, one of the most famous maestros of this old Italian school. The method which he followed in his teaching was imparted to his pupils in their lesson hours. No written formulas were put into their hands, and it depended entirely again on these to transmit his knowledge to the next generation. The most promising pupil of Mercadante, who possessed the greatest possibilities for teaching and handing down his ideas, was Vincenzo Cirillo. Cirillo had re-

ceived, at a very young age, a thoro training in the conservatories of Italy. Coming under the influence of Mercadante, he turned his attention away from the instrumental to the vocal field. His musicianship and thoro understanding of the vocal art were fully acknowledged by men of and outside of the vocal world. Both his intimate friendship with Longfellow, with whom he collaborated in setting his poems to music, and the high regard in which he was held by such singers as Campanini, Tamagno, Del Puente and Brignoli, were sufficient evidences of the recognition of his ability. Cirillo possessed a clear, active mind and, with the aid of a well developed bass voice of great beauty, he was a splendid exponent of the method of the old maestros.

When he was at his prime as a teacher and composer of vocal music, Cirillo came to this country. It was at this time that Mrs. J. P. Brown, of Boston, came under his instruction. Her natural musical ability and brilliant voice immediately attracted his attention. He gave her the benefit of his best knowledge, in order to fit her in every way for an operatic career. Before her nine years of training were at an end she had been engaged for grand opera, but her sudden marriage at this time made her public career impossible. The remaining years

of her training were then spent in preparation for carrying on Cirillo's work.

It was thru this line of traditional teaching that she inherited the correct idea of natural singing. It happened, too, that the idea which had been handed down so clearly escaped the more modern fad of teaching "breathing." In regard to this, Cirillo told the story of how Mercadante answered the inquiry of an ambitious applicant when he asked, "Do you not teach me how to breathe?" at which the maestro exclaimed, "Mio Dio, if God has not taught you how to breathe it is time you were buried!"

As soon as I came in contact with this idea I realized that it was the true one of natural singing. After some years of study under Mrs. Brown and of original research, I have analyzed and put the idea to a scientific test thru the laws of sound as we know them, but as they have never been applied to singing, and to a second test, which may be called the aural test.

The old Italians found that in teaching foreigners the art of song they encountered many difficulties. These difficulties became more apparent when they tried to teach the foreigner, especially the English-speaking pupil, in his native tongue. The difficulties here resulted from crudely combined syllables which

the English people used to express the vigorous, aggressive spirit of their environment. For many generations they had grown more and more commercial, while the Italians had become more and more artistic. The Italian language itself had undergone a radical change from the time of the sturdy, hard-fighting Romans to the time when artistic development demanded a more easy-flowing combination of syllables, for the Italians had become dreamers instead of fighters.

It was thus that the consonants and vowels gradually re-combined themselves in such a way that they fell easily and musically from the lips. To re-quote from Henderson's quotation in his "The Art of the Singer," the Sanscrit proverb says, "Be sparing with the vowels and you will speak beautifully; honor the consonants and you will speak distinctly." Thus it is that the consonants first lead the vowels to their true sounds. So to-day, when the Italian artist sings his language, the vowels flow out freely in a rythmical swing, for the lips have long been trained to the proper production of tone.

The maestros, then, in teaching the English-speaking foreigners, worked along the line of least resistance. He taught the art of song thru his own Italian language, and trained his pupil's ear to the tone-forms as he knew

them in his native tongue. He then endeavored to translate these tonal forms into the English language. This method was only partially successful, for, in teaching his pupils to produce tone with the Italian syllables and words, he could not, with but few exceptions, teach them how to produce musical tones with the use of consonants and vowels as they are arranged in English words. Singing and speaking the Italian language musically has come to those only who have been born there or who have lived there and caught its real spirit.

In order to understand why the old Italians were so successful in their production of tone, I made a thoro aural and scientific analysis of musical sounds as created by the voice. This brought me directly to the language of sound as science understands it, for science understands sound equally well in English as in Italian. No matter how musical or unmusical the spirit of any nation may be, science must recognize all sound from its element to its roundest, fullest form, whether it comes from the violin, pipe-organ or the human voice. Certain combinations in the English language gave me the same results that came from certain combinations in the Italian. Following out the scientific analysis of sound, I found that all tones, from the keenest to the round-

est, could be expressed similarly in both languages. There seemed to be a common alphabet of sound. But the Italians had built their language nearest the lines of the easiest production of tone. The English had strayed farther away from it.

In the following pages I have transferred the idea of the famous old maestros, as applied to their own language, to the language of the English-speaking people. If the earnest student assimilates and applies the principles which have been presented, he cannot help but develop all the requisites necessary for the production of beautiful tone.

CARL PREETORIUS.

Introductory.

Scientific Analysis of Sound Waves.

Air vibrations of sound, when unimpeded, vibrate in spherical waves from the point of disturbance as a center. The action of sound waves in the air is roughly illustrated by the spreading, circular waves on the surface of placid water when a pebble is cast into it. Altho sound is produced as a result of vibrations in the air, all vibrations produced in the air do not necessarily produce sound. For sound does not depend alone on the mere vibration, but on the length, amplitude (depth) and form of the vibration. Sound can only result when the vibrations have certain length, amplitude and form. When light and heat are transmitted by air we have vibrations of light and heat. Every movement of our bodies causes some vibration in the air. It is, therefore, the character of the air wave that determines whether it affects the eye as light, the body as heat or the ear as sound.

For the benefit of those who desire to under-

stand the science of the transmission of sound, I insert the following illustrative figures of wave motion in water. Wave motion, or vibration, in air and in water is the same, with the exception that in air waves the motion travels to all sides, i. e., spherically.

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Fig. 1.

Fig. 1 shows the particles of water at rest.

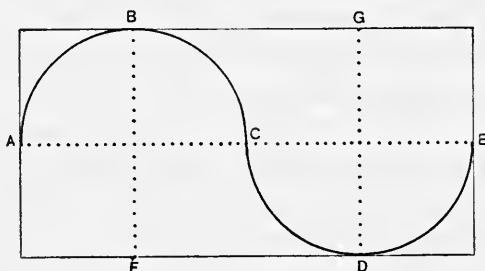


Fig. 2.

Fig. 2 shows the particles raised and depressed and in a single wave motion. The line A, B, C, D, E is the form of the wave.

The straight line, A, E, is the length.

The line B, F, as also G, D, is the amplitude, or depth.

Similarly a sound wave also has three characteristics:

- (1.) Form.
- (2.) Length.
- (3.) Amplitude.

The Form determines the Quality and also the Timbre of the sound.

The Length determines the Pitch.

The Amplitude determines the Intensity or Carrying Power.

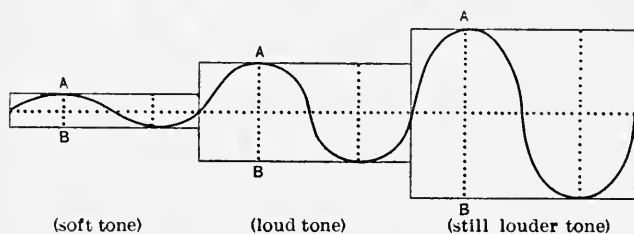


Fig. 3.

1. The softness or loudness of tone depends on wave amplitude.

In Fig. 3 are shown three waves of the same length and form, but of different amplitudes.

Intensity of sound depends on the amplitude. Therefore, the greater the amplitude the greater will be the carrying power of the sound. As long as there is energy enough to create an amplitude the sound will continue.

2. Pitch depends on wave length.

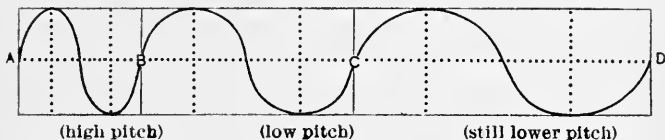
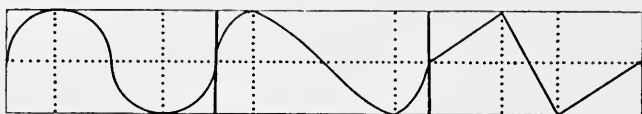


Fig. 4.

Fig. 4 shows three waves of the same form and amplitude, but of different lengths.

The pitch of sound is lower or higher as the wave length is respectively longer or shorter. The number of waves or air vibrations produced in a second of time is determined by the wave length, i. e., the shorter the wave length, the greater will be the number of waves in a second of time. If the air is forced to vibrate a certain number of times in sound waves during one second, and a greater number of times the next second, there will result two different pitches. This is easily proven by swinging a nail tied to a string swiftly and more swiftly over our heads. The sound travels up scale as the speed is increased. A high note, consequently, is formed by a quicker vibration than a low note. By a quicker vibration, however, we do not mean a more intense vibration. Intensity depends on amplitude. Quicker vibrations merely give a greater number of vibrations within a given time, and so raise the pitch of the tone.

3. Quality as well as Timbre depends on wave Form.



(Fig. 5.)

In Fig. 5 are shown three waves of the same length and amplitude, but of different forms.

As the form changes, either quality or timbre, or both quality and timbre, change. Quality and timbre are defined in a succeeding chapter. How two different timbres affect the form of the sound waves that express the same quality is also explained. Suffice it to say here, that wave form determines both timbre and quality.

A knowledge of how these three characteristics—form, length and amplitude—influence the sound wave, will aid the student to understand how the development of the **element of tone** gives him the greatest possibilities for expression in the tonal art.

Analysis of Tone.

What Tone Is.

Acoustic Properties.

A scientific knowledge of the characteristics that constitute a sound wave has been gained in the Introductory. In the making of music with the voice, however, there is necessary an aural knowledge, i. e., a power of comprehension and discrimination of tones with the ear. A scientific analysis of a sound wave shows its three characteristics to be: (1) amplitude, (2) length, and (3) form. These characteristics appeal to the aural sense as (1) intensity, (2) pitch, (3) quality and timbre.

The first important consideration for the vocalist is the life-sustaining power of tone, for without life-sustaining power there could be no tone. In the scientific analysis the life-sustaining power is shown to be the amplitude of the sound wave, which, in the aural sense, corresponds to its intensity or carrying power.

In analyzing tone, therefore, with the aural sense, we must find what ingredient it is in

the tone that gives our sense of hearing the sensation of greater or less intensity.

In order to find this ingredient let us analyze sounds we have heard. Concentrate closely on the memory of some very powerful sound that has affected every nerve in your body and made you clasp your hands over your ears. You will find that it was a piercing, shrill, keen and penetrating sound. It made your nerves tingle. It cut into your brain. It startled you, altho you may have expected it. The keener and sharper the sound, the more your nerves tingled and the deeper did it cut. Take away this keen, piercing ingredient from a noise to any extent and you will realize that it affects you less severely. There is lacking that something which stirs your nerves and makes you clasp your hands to your ears.

You have heard whistles blowing in your neighborhood—one farther away than the other. You may have become aware that one of these whistles was less distinct than the other, altho the one less distinct was not so far away. The more distinct whistle had a keener, shriller sound.

You undoubtedly have heard a human scream of agony or fright that has made you tremble; not only because of its humanness and your sympathy did it make you shudder,

but because it carried in it that something which compelled your mind to listen.

The power that roused you and held your attention, in spite of every other interest of the moment, was the keen, piercing sharpness that predominated in both of the sounds. It will be remembered, if you recall such sounds heard at a great distance, that it was this keenness that was evident to your ear. For example, the whistle of a locomotive will sound very sharp when it is far away, but as it approaches the ear receives a fuller sound. Or, as the locomotive moves slowly into the distance, the whistle sounds shriller, till the last sound you hear is a thin thread of sharpness. This goes to show that it is the keenness in the sound that carries itself into the distance. From the scientific analysis we know that the distance a sound travels is dependent on the wave amplitude. Science also says, rightly, that intensity of sound corresponds to the wave amplitude. From your own experience, as illustrated in the two examples above, you know that a sound that affects your nerves most intensely is the sound that is keen and piercing. Since it is not the wave length, but the amplitude, that determines the life or the carrying power of the wave, and since it is the keen and sharp sound that is carried the greatest distance, these two things must be

identical with the intensity of the sound wave.

The question may arise in some minds whether the distance causes a rise in pitch. They may remember that when a factory whistle begins to blow it rises in pitch. The reason for this rise in pitch, which is especially evident in a large whistle, is that the amount of pressure that is at first applied is not yet sufficient to make the air vibrate in sound waves such as are meant to be created by the aperture of the whistle. The air column in the whistle, instead, is being vibrated before the steam drives it out. As soon as the steady pressure of steam forms sound waves thru the lips of the whistle the pitch will remain the same unless that pressure is again slowly removed. It is never the distance, but the amount of pressure, that has to do with the rise of pitch in this case. The pitch of every whistle, we know, depends on the size of its aperture, and it takes a certain amount of pressure to make it blow at that pitch, and no matter what the pressure is thereafter there will be no further rise in pitch. Pitch never changes because of distance, for then the wave length would have to change, and all laws of harmony in sound would be contraverted. If that were true, then sounds made on the same pitch, one after the other, at different distances, would reach the ear of the listener as

sounds of two different pitches. If two instruments of different timbres, or of the same timbre, played two notes in harmony, these two notes would be out of harmony when they reached the ear of the listener, if the wave length changed with the distance and the listener happened to be nearer one than the other instrument.

A sound in the distance, we know, has a fine keenness. As you approach the resounding body the sound may become very full. The amplitude increases as the distance diminishes and, with it, the intensity of sound. The wave form, as we approach the resounding body, rounds over, i. e., the sound becomes fuller. The form of a sound wave depends entirely, as science has proven, on the aperture thru which the sound wave is created. The fullness is dependent on the form of the wave, which, in turn, is modified by the amplitude. The amplitude of the sound wave depends on the force transmitted into the wave. The amplitude of a sound wave, then, or the intensity of that sound, is the element of sound as it appeals to the ear of the listener in a more or less rounded form.

We may say, therefore, that **tone is the element of sound in a more or less rounded form.**

All things in Nature have an ingredient substance which determines the life or the

classification of that thing. In analyzing sound we have had to seek that ingredient which gives to sound the power of existing—that power which sustains the life of the vibrations that carry sound from its beginning until it reaches the ear of the listener. Science has clearly demonstrated that it is the amplitude that determines the life of the sound. And hence, the ingredient in sound, as it appeals to our ear, that determines the life of the sound, must correspond to the characteristic that determines the life of the sound wave. Added ingredients of other elements are only of proportionate value and must always be eliminated in order to get at the determining element. The existence of sound, therefore, in whatever form that sound may be given life by the resounding body, is determined by the intensity, or the element.

For the vocalist, as I have said, the first important consideration is the life-sustaining power of tone. This we have learned to be the element of tone in a more or less rounded form, i. e., it is the intensity with which the sound appeals to our aural sense and which has been proven to be, in its most intense form, a very keen and penetrating sensation. The rounder the sensation stimulated in the aural receptiveness, the less keen and piercing is the tone produced. For instance,

the mouth of the whistle is cut in a certain shape to produce a certain sound, for it has been found that one kind of aperture will give one kind of sound, and another, another. The round-mouthed whistles give a rounder sound, i. e., a fuller sound. In the full tone the element of sound, i. e., the keen, piercing ingredient, has been rounded. Stated scientifically, the wave form or outline of the full tone, created by the amplitude, has been given a very rounded form by the aperture through which the force gave life to the wave.

The important consideration that concerns the life of sound is the transmission of energy into the flexible body of air by the force that creates the wave. The sound produced by driving a small nail with a good-sized hammer into a solid post of oak is much less in intensity than the sound produced by shaking the same-sized nail in a tin box. From this illustration it can easily be seen that it is not the force expended, but that it is the force transmitted that creates the intensity of sound. In the first case the force was directed to drive the nail into the oak post. The resistance of the wood in the oak post stayed the vibrations of the nail and killed the sound. In the second case the nail, in its contact with the tin box, was left free to vibrate upon the air. If the hammer had struck a nail fastened

in a large, thin sheet of brass, the resistance of the brass would not have been great enough to stay the vibrations of the nail. In this instance the vibrations would have been transmitted to the sheet of brass, and from it into the air. A boiler-maker, when he drives the rivets, is always deafened, to some extent, by the vibrations of sound.

Now, if the vibrating body is covered, the vibrations that produce sound waves are resisted, and the result is a muffled sound, or perhaps no sound at all. No one would think of covering the mouth of a whistle or the mouth of a human being unless he wished to muffle the sound. Near by, this muffled sound may seem very big, tho never keen nor intense, and it can not be heard at a distance. In order to transmit energy to the flexible body of air for the creation of sound waves **there must be no resistance between the force of the resounding body that creates the sound vibration and the flexible body of air where the sound wave is created.**

Vibrations of sound, therefore, must be free and unimpeded in order to continue effecting new vibrations. In order for sound to be carried a great distance the wave vibrations must be deep and high, i. e., the amplitude must be so great that, for a long time, each successive wave has sufficient force and energy

to impart in order to create another wave. As the energy is transmitted from wave to wave in spherical motion, the circle is gradually widened. The increasing amount of air that is set in motion, and the friction caused by the resistance of transmitting energy thus, from one wave to the next greater wave form, diminishes the amplitude (intensity).

It is self-evident that a noise created outside of any body is far greater than a noise locked within that body; for when the sound is impeded before it reaches the ear of the listener, by virtue of the laws of reflection and refraction, the sound is partly thrown back, and the part that does reach the listener is so weak that it has lost its original character.

This calls to mind again that one thing essential to the life of the tone which we, who desire to attain a perfection in the vocal art, must take into consideration. That thing is no other than the element of tone itself. This we must teach the ear to cultivate. But that comes in a later chapter.

No doubt, you have sat in the front row at the opera and heard world-famed singers producing tones that came to your ears rough and jagged. But when you heard them from the rear end of the theatre, the tones made by the same singer sounded smooth and even. The explanation of this apparent incongruity

does not result from a conscious production of tone by the singer, but is a simple matter of fact that, when a singer produces a rough, scratchy tone in a large place, where the acoustic properties are more or less imperfect, the waves of the sound vibrations have rough, jagged surfaces. The energy which creates this little roughness in a wave is not sufficiently forceful to live out the life of the vibration, and, consequently, it grows less and less rough as it vibrates toward the rear end of the room, until finally it disappears into the surface of the wave, and the tone is smoother now as its wave line of vibration is more even. Such energy, then, is wasted force, and might have been transmitted to the body of the wave at the start.

A large space, as well as a small one, demands attention. In fact, any resonant space in which we are to create tone must be measured by the ear. This is one of the things that the law of acoustics demands of the singer. As we now know, the element of tone is the carrying power of the tone. It is the cutting of deep, forceful waves. In a great, resonant space we must seek to make the sound waves vibrate to the farthest corner of the place. We can do this by demanding, with our ears, more of the element in the tone we produce. Contrarily, in a small space our

ear should call for a tone in a very rounded form, for less of the element is required. The wave vibrations need less amplitude, or force, to carry the sound to the other side of the small room. The ear must be at all times the director and judge of the amount of energy necessary to give the tone more or less of the audible elemental ingredient—for the wave that creates the telling elemental sound is the wave that will reach the listener farthest away. A pointed elemental tone is carried at first by a very deep wave, but as it vibrates into the distance, the wave, by losing its amplitude, loses to that extent its original character, and, of course, carries a sound less intense than the one created within a near radius of the ear of the singer. At a distance, then, the keen, pointed tone will appeal to the ear with less intensity and in a smaller, but comparatively broader form. But distance does not change wave length.

The size of resonant space, therefore, must be limited for beautiful tone production to the power of the individual voices. There still remains this unequivocal fact: that if the small voice and the large voice are trained to express themselves to the greatest possibilities of musical tone production, both will have tones of equal carrying power, but in harmony respectively with their lighter or heavier quality. The more forcefully a human being can produce a musical tonal wave, the more may

he round the element. However, this does not say that a human being cannot develop so that he can produce a more powerful vibration than that which he at first produces. The law of development all science must recognize, for it is the strongest expression of the law of Nature, without which nothing can be improved. If the contrary were true, even the most beautiful voices would soon wear out. Usage means wear, and development comes as a resultant of usage. In order to rebuild we must remove old structures. If the student is more than ordinarily interested in the philosophy of tonal development, which I cannot help but feel every enthusiastic student is, I wish to refer him to the discussion in my book on "The Philosophy of Tone."

The law of evolution provides the possibility for development. Even if one has but little tone-producing power to begin with, he can develop a singing voice far beyond his expectations, which will be a medium of expressing his noblest feeling and thought. His tonal imagination, consequently, also will grow and develop. It is necessary, however, for those who wish to develop rapidly and correctly, in accordance with the laws of Nature, whether they have great or little power of producing

tone to begin with, to give themselves the exercises* that will bring about that development. In this the ear of the student must at all times be his guide and teacher.

*When the author speaks of exercises he refers to his publication of three vocal studies—Elementary, Intermediary and Advanced. The exercises in these three books are composed and arranged so as logically to aid the developing voice to overcome all difficulties.

The Value and Training of the Ear

Nature has given us a sense of hearing, by means of which she intends that we discriminate between different sounds. By her law of development this ability to discriminate between sounds becomes of inestimable value to the student of vocal art. It is thru this very power of discrimination that the student can learn to recognize that part of sound which we call its element. And this power, again, which enables the ear to recognize the element enables it to recognize the beautified forms of the element.

The importance of the ear and the value of its training have been overlooked to an appalling degree. The training of the ear is perhaps the most vital factor in the development of the singer. For thru the ear the tonal imagination receives new impetus from the beautiful tones that it has been able to accept. The tonal imagination, in turn, aids the student to produce that tone which has been built from the tone that the ear has recognized as beautiful. As the student learns to

produce more nearly the sound that his tonal imagination calls for, his ear, as a result, will be trained to a higher degree of efficiency in discriminating sound. This again advances his tonal imagination.

The law of imitation is one of the most powerful developers of the tonal imagination. The student, therefore, should feed his ear on the very best tonal production that he can afford.

The thing that affects sensitiveness of hearing most is the concentration that the student himself applies in striving to create a tone. Here the developing voice itself illustrates to the ear the need of a higher ideal. Thus it is that the ear becomes dependent on two things: (1) on the imitation of a tone as heard, when created by someone else, and (2) on the creation of tone as directed by the tonal imagination. Imitation of tone depends on the memory of hearing; creation of tone depends on the tonal imagination.

Thru imitation, then, the tonal imagination is developed—imitation, not only of the most perfect tones heard as produced by others, but also of the most perfect tone that, at some time or other, we have produced by the impetus of some unusual inspiration. To the tonal imagination, however, is given that creative power which makes progressive de-

velopment, even beyond the limits of the present conception, possible. Without the tonal imagination, the law of imitation would be nil. It is, therefore, not the power of imitation that we seek to foster, but the constant development of the tonal imagination, which becomes, thru its creative power, the soul of the voice.

The matter of the creation of tone is so important to ear training that, unless the student begins from the first to produce his tones rightly, there will result all kinds of difficulties, such as defectiveness of pitch, lack of clearness, richness and those qualities that go to make up a beautiful tone. The memory of hearing becomes filled with different incongruous, unmusical sounds, which are hard to discard. Having become habituated to the production of sounds similar to those carried in the tonal memory, the tonal imagination suffers as it is held in restraint and cramped to a free acceptance of the impetus that a really beautiful sound gives it. The ear may even have become incapable of recognizing a beautiful tone. Altho a singer's ear may be acute to beautiful sounds, while he is hearing them, the wrong creation of his own tones so affects his memory of sound that when he tries to create tones in imitation he soon destroys his memory of those tones. The tonal imagi-

nation, in consequence, receives little impetus from the memory and becomes so decrepit and weak that it no longer can build a beautiful tone.

So far, we have taken up the production of tone as such. The great fault of most singers is that, in their endeavor to create beautiful tones, the language of the song becomes unintelligible. The creating of alphabetical sounds in beautiful tone form depends on the tonal memory and the tonal imagination. Of course, it is paramount that the student should first understand the shadings of the tones before he takes up pronunciation, as pronunciation is one of the last parts of the art. The pronunciation of words will be approached thru syllabic forms in the natural order of tone development.

At all stages in the work of ear training the student should make every effort to concentrate his hearing on every tone he produces, so that he can feel sure that he is approaching the ideal of his tonal imagination. With close concentration, the memory will become filled only with the purer sounds, and the tonal imagination will be given the best stimulus for developing a beautiful tone ideal.

The Placement of Tone

- (a) VALUE OF THE LIPS.
- (b) TRAINING OF THE LIPS.
- (c) HOW THIS AFFECTS TONE.
- (d) VOCALIZING BREATH.
- (e) DEVELOPMENT OF TONE.
- (f) THE ROUNDING OF TONE.
- (g) THE DIFFERENT TONAL QUALITIES AND SYLLABLES TO EFFECT THESE.

When less elastic bodies than air impede the sound waves, they are reflected. This reflection of sound makes it possible to build a resonant space within which the listener's ear can receive the vibrations of sound just as they are produced. The very law that excludes all outer disturbances and reflects all inner ones, works to the detriment of a tone when that tone is impeded before it reaches the hearer. Even tho the structure of the impeding body may be such that it transmits the vibrations of sound, the effect of the law of refraction will weaken the original character of the sound. So, then, when a student produces a tone in his throat or nasal cavines, the sound vibrations are impeded and reflected by the flesh and bone of the neck and face, let alone

the fact that the space allotted them in the throat and head cavities is too small to permit them to continue their spherical motion.

For the listener it is the wave vibration created **in the outer air** that makes sound. So that air vibrated by the vocal cords, altho formed into sound waves in the mouth, throat and nasal cavities so powerfully that the wave motion is carried thru flesh and bone, yet the wave is impeded and the original character of the sound wave suffers. It is self-evident that in free and unimpeded wave motion the amplitude, length and form of sound waves are retained unchanged. The place where the tone waves must be made in order that their motion will be unimpeded, is as far away from the throat, head and nasal cavities, and as near the outer air as possible. That place which is nearest the air where tone can be created is **the outer edge of the lips**, where thousands of little muscular fibrillae, by a slight movement, can change and form the vibrations into the different sounds that the ear calls for. We must create tone as far away from our bodies as possible, not only because such vibrations created within the body, covered by flesh and bone, will not carry far, but for the reason that they will lack clearness, being muffled and shut within the very body that creates them. If we keep our mouths closed and try to talk, we will

find that the amount of sound we create is of no use. And, if we open our mouths very widely and force the vibrations up into the head and nasal cavities, thru which we draw our breath and which are there solely to act as a filterer and warmer of the outside air, our tones will be nasal, unmusical, will lack clearness and distinctness and, most of all, carrying power. It speaks for itself that the mouth is the passage nearest the throat and the outside air. If, then, we create our vibrations of sound as far forward as possible, we will send them from the lips. This again emphasizes our desire to learn how to make the vibrations we produce vibrate in sound waves from the edge of the lips.

Science has proven, by experiment with horns, that it is not the different materials that control the character of sound, but **the size and shape of the apertures.**

If you bring your lips together, as you do when you whistle, and then make an attempt to whistle with your throat, you will find that you are blowing the breath thru the lips without any whistling sound coming from your throat. Now whistle as you ordinarily would, and while you are making the whistling sound with your lips, slowly separate them, but continue to force the breath out with the same energy. The whistling sound will dis-

appear, for the energy with which you are exhaling the breath is not great enough to create vibrations sufficiently large for the lips to change into sound waves. You will have ceased to have formed sound waves with them. Again, when you whisper very softly, you will find that it is your lips that form the different sounds of the alphabet and not your throat. Exhaling air from the lungs creates vibration, as does all movement, and this vibration, altho a very gentle one when we whisper, is changed by the lips into audible sounds that we understand. The little arrangement of cords that Nature has placed in our throats, by means of which we can vibrate the air more strongly than when we wish merely to whisper, is there to enable us to make bigger and heavier vibrations. Some vibrations are so light that only the ears of insects are attuned finely enough to register the vibration as sound. In order to counterbalance our lack of this acuter hearing, Nature has given us a means wherewith we can create a heavier vibration than we do when we give merely a whispering tone. When this heavier vibration is formed into a sound wave by the lips it can be heard at a great distance. Did the lips receive merely the light vibrations that result from throwing the air out of the lungs into the atmosphere, they could only create sound

waves that would be heard at short range. The necessity, therefore, for the lips, which form the sound waves, to receive heavy vibrations whose amplitude will lend a greater intensity, is self-evident.

It is to the creation of sound upon the lips, then, that the student must direct his aim. The training of the lips becomes the all important factor in creating tonal wave forms. A tone wave created on the outer edge of the lips, because of its free and unimpeded motion, retains its original form, length and amplitude, i. e., the quality, pitch and intensity the ear has called for.

A little hole in a steam pipe will emit a sound, whereas a larger hole punctured in the same place, with the same amount of energy retained in the pipe, will make at most a rounder sound of less carrying power. If the aperture is made large enough, no sound at all will be heard. Consequently, the smaller the aperture in the steam pipe the less energy will it take to create sound, and the larger the aperture the more energy will it take. If the aperture is very small, we know that the sound is very keen, hence nearer the beginning, or element of sound. Our reason, therefore, tells us to keep the lips at first closely together, i. e., to form a small aperture with them in order to create a sound wave that will be a vibration

of the tone easiest of production. The tone that is easiest of production is keen and sharp. The sharper and keener the tone the nearer will it be to the beginning of sound. In our own language this sound is best given us in the very keen pronunciation of the vowel "e." In order to exercise the muscles of the lips, however, and to aid us to bring the vibration to the lips that is to be formed by their muscles into a sound wave, we place the consonant "p" before the vowel "e." Practice makes more perfect, and with practice we are soon able to throw the vibration to the muscles of the lips, which they change into sound waves and the form of tone we are seeking. Indeed, our training should be so complete that the moment our eye sees a notation of a sound, our ear will immediately hear its tone ideal, and the lips will respond quickly to the formation of that tone ideal when we throw the breath to their outer edge, softly or heavily vibrated over the little cords placed in our throats for this purpose.

The first thing that we must do is to cultivate that sharp, piercing sound, the element of tone, which we know will carry itself to the listener and stir him. Take the syllable "Pee" and make the sound of "ee" as sharp, shrill and piercing as any sound you ever heard. The keener and sharper the tone the more ele-

mental is its character. The combination of P and "ee" is given because the consonant P can only be made by holding the lips firmly together and forcing them apart with a snap. When the lips are separated with a snap they should not be brought together again until it is time to pronounce the next syllable, i. e., the syllable Pee should never be pronounced "Peep." The vibration of a tone must not be cut short in this way. A tone should be allowed its natural crescendo and diminuendo after the Pee has once been thrown from its place off the lips. At first it may require some effort to throw the Pee forcibly enough off the lips. The first thing that a student must acquire is tone power, i. e., ability to make a sound that will carry. After a few weeks practice the effort will be found no longer necessary, as the habit of throwing vibrations to the lips has become an involuntary action in the creation of sound with the syllable Pee. Thus the action of the lips snapping apart throws the vibration so far forward that it is shaped into its sound vibration by the lips themselves. The element of tone will be more nearly attained as the ear cultivates this sound, for the ear must always be the guide of the singer. If a singer cannot recognize tone his mind can never build an ideal that he can set as his goal.

It is necessary, therefore, to train the ear to analyze every tone it hears of others and those that the singer himself creates. To hear a tone and to give it again exactly on the same note of the scale, without variance from pitch, is one of the student's first rules. In order to do this the ear must recognize a clear, unimpeded tone, for if the tone is muffled or driven into the head thru the nose, the singer will be unable to hear the sound distinctly enough to realize whether it is exactly on pitch or not. Tone vibrations driven thru the head are no longer pure tone vibrations when they reach the outside air, and therefore again, the singer will find himself, without knowing it, short in pitch of the tone he wishes to produce. Some of our most famous singers demonstrate this fact unconsciously, especially in their sotto voce work. We strive, of course, for sweetness, purity, richness and power. Purity and power both depend on getting the tone vibrations to take their beginning at the edge of the lips. Richness and sweetness come thru the manipulation of the many little muscles of the lips that are given to us for this purpose. The lips, as well as the ears, are an invaluable agent to the singer in the production of tone. For with the lips he sharpens, rounds, mellows, softens, hardens, enriches or sweetens; in fact he does anything that the

ideal of his imagination may suggest. It is essential, therefore, to pay close attention to all sounds and tones we hear in order to develop our tonal imagination and fill our memory of hearing with beautiful sounds. At first, however, we must concentrate on the element of sound that we long to make beautiful. We place the element of tone upon the lips, by making the "ee" of the Pee sharp and shrill. By remembering to snap the lips apart every time we produce a tone, we quickly gain dexterity to make a more and more powerful tone. The mind soon realizes, for the ear hears it. Three weeks of intelligent practice will bring comparatively astonishing results in the gain of tone producing power.

In the first of the exercise books the directions for practising the syllable Pee are given with musical accompaniment. When three months of daily drill have been given them and the ear and lips recognize and form the element on all the intervals of the scale, it is time for the **rounding** of the element to be taken up in the first stage.

In our practice to produce the tone more and more elemental we have learned to throw the vibrations to the lips. Just as soon as we feel that the tone waves are being formed there, we begin to change the tone more and more

to suit our tonal ideal of the sound "e" of our language. Then we transcend from "ee" into another sound, a sound which is an easy transition from the element, but which is more like the "u." This sound we get by combining the "e" and "u," and we again aid the lips by placing the syllable P before it. The sound "eu" (pronounced like the German umlaut "ü") opens somewhat the aperture formed by the muscles of the lips in pronouncing Pee, and slightly rounds it. This is a gradual change. It is made more gradual by allowing the muscles of the lips to round the "eu," at first, but little. The lip muscles soon learn, thru practice, to answer the call of the ear, and in time can produce quite a rounded "eu."

We find that when we change the formation of the aperture of the lips that the sound changes, as, of course, it must, for the form of the sound vibration changes. The intensity will also change unless we have learned to produce a rounded tone with the same amount of energy with which we produce the element. Therefore, we must be careful not to try to round and open the lips too far, for, if we do, the muscles of the lips will cease to have control over the vibrations, as a knowledge of recognizing the greatness of the vibration of the sound that we are able to produce has not as

yet been acquired. We must go gradually and, therefore, take the next step that deviates but very little from the elemental form, and this form we find in the syllable *Peu*. The muscles of the lips must receive much exercise, with concentrated attention, and the ear must hear the daily production of tone.

As we continue in our practice we take the syllable next in order, which is formed with a trifle more roundness of the lips than the "eu," and this we find in the vowel "u." The lips, by this time, will have become dexterous, and we will have learned to throw to them, with the aid of the consonant *P*, the vibration necessary to be changed into a sound wave. So we put in place of the snappy *P* a consonant which disappears more readily into the vowel, and the best of these is *Y*, as it expresses the elemental sound in its pronunciation (i. e., *Yee-u*), and in this way aids the lips to form the "u" sound wave. When the muscles of the lips have become still more dexterous and form the "u" to the satisfaction of the tonal imagination, we allow the lips to form a still rounder tone out of the vibrations that we send to their very edge.

In the vowel "o" we have the roundest form, but we must be careful at first not to try to imitate or to create the roundest form that we have ever heard or imagined. We must at first

round but little, as the muscles of the lips need much practice to give the rounding formation and still retain the lip placement. We must not open the lips so widely that the amount of vibration that we send to their edge will be expended into the air without being changed into a sound vibration, for we must keep in mind that it is not the amount of vibration that escapes thru the lips that creates tone, but **it is the amount of vibration that is formed into tone waves that creates it.** We will find, of course, that after a longer period of practice the element in its roundest form will also come without the aid of a forced snapping of the lips.

Our object in singing is to create musical tone. That each letter of our language has in it some form of the element, whether more or less rounded, we know. Therefore, it lies entirely with the tonal imagination and the dexterity the student acquires in producing tones with the lips and, of course, in the greatness of the development he undergoes, how musical or unmusical, how stirring or unpersuasive his tones will be.

Human tone is vocalized breath. In order to vocalize breath as we send it over the small cords in the throat and thru the aperture of the lips, where we create it into tone in its exit, the muscles of the lips must be given an

opportunity to form themselves in such a way that they can, thru their action alone, produce the tone. By vocalized breath we mean the **least** amount of breath necessary to cause the vocal cords to vibrate in the production of a loud or soft tone, and not the amount of breath expelled uselessly thru the nose and mouth. The utilization of every particle of breath that we send out while we make tone vibrations of it on the lips can best be acquired, as is self-evident, thru the production of the element of tone. For when we produce the element we close the lips so that but a little opening is there for the passage of the breath, and it is the cultivation of this element that develops power in tone production.

As we learn to create the rounder forms of the element, we learn to manipulate the little muscles of the lips so that every bit of breath we use in creating tones is vocalized and not expelled uselessly thru the corners of the mouth and nose, for we certainly cannot make beautiful tones come thru the nose any more than we can whistle thru the nose.

It will be found, after practice with the element, that the power of producing tone has developed enormously—far beyond our expectations. The gaining of power is a matter of intelligent daily practice. Roundness of

tone comes gradually, for it will be found that our ear is beginning to call for finer tones, the formation of which demands more in proportion of the lips.

We now need new combinations of syllables in order to give the lips the necessary gymnastics to form the different tonal qualities. We have had the syllables Pee and Peu. We now take the syllables Yee and Yeu. The Yee is made without the snap of the Pee and, therefore, the element of tone in the Pee must first be easy of production upon the lips, else the tone produced with the Yee will be created farther back in the throat, which we know retards, muffles and kills its beauty. If the syllable Yee slips back it shows, of course, that tone can be created farther back in the throat, because the muscles in the mouth and throat are sufficiently elastic and can be used to form sound waves. But the fact still remains that the lips, by virtue of their physical construction, are the most flexible and, hence, the easiest to direct, and the best adapted to create all the varied changes of wave form.

In case the Yee slips back the Pee can always be reverted to. The Yee, if persistently practiced and alternated with the Pee, will undoubtedly find its creation thru the little muscles of the lips exactly at the same place as the element in the syllable Pee. The aid to

the lips with the consonant P is no longer necessary, and we replace it with the consonant Y, in order to give flexibility for rapid work. It is very essential to have a quick response of tone in order to do coloratura. The Y of the Yee will be found gradually to disappear into the element when the scales are performed very quickly. This is as it should be, for it is our object to learn how to create the elemental sound upon the lips without the aid of a consonant.

The question of attack is entirely obviated, because, when tonal waves are formed by the lips, i. e., when the syllables are produced upon the outer edge of the lips, an immediate response of tone is inevitable.

What proves true with the production of the keen element, thru practice, becomes solely a matter of dexterity in the rounding of the element. In order to further this we use the syllable Yeu, and as we pass from the first exercise book to the second we take up the still rounder forms, producing them with Yu and Yo, and finally, in the last book, with Bo and Ro. This all is but the simple and gradual development of the element itself and its rounded forms; it is the backbone of the musical rendition of our language, for the element and its rounding over control every tone that we produce.

In working towards the rendition of our language in musical tones, we must take up the combinations of syllables which encompass the entire alphabet of our language. This we can do best by making combinations first of those syllables we already have taken up in the advanced book of the exercises.

Some of us may not be able to realize fully what a round tone is as distinguishable from a hollow, muffled sound. A hollow sound can never be classed in tonal production, for a hollow sound is a reverberated sound, altho it is perfectly possible to create a hollow sound on the lips, but a hollow sound cannot be created wholly on the very edge of the lips—that is impossible. The little muscles of the lips, in order to create the hollow sound, twist themselves in such a way that they send the vibrations back into the throat and thereby cause a reverberation. Have you ever gone thru a tunnel or under a bridge, or into a large pipe and called out to some one of your friends, and have you noticed how hollow and unearthly the sound reverberated as the vibrations of your tonal waves struck the walls about you? Even so some singers try to produce tones by making them reverberate in their heads and stomachs. Every tenor who tries to make his tones reverberate in his head and nose, and every basso who tries to make

his tones reverberate in the lower regions of his stomach, is either deplorably nasal or miserably hollow, and, most of all, in nine hundred and ninety-nine cases out of a thousand, off pitch—altho he himself or his musically uneducated audience may never learn to expect the perfect pitch.

The rounded element is nothing else than the element itself rounded. We do not lose the ingredient of the keen sound, for that very ingredient is the thing that carries the tone to the listener farthest away. Our endeavor is to train the lips to form the wave vibrations for silver, bell-like tones, or, as the mood requires, for rich, sonorous, brilliant, stirring, dramatic qualities. The possibilities for expressing every mood lie in the thousand changes of the position of the muscles of the lips, and whatever may be the probability for dramatic expression or for purest devotion, the muscles of the lips can be trained to a sufficient dexterity to express their every tone-color. From the great pipe organ we have a roundness of tone that seems unequalled by any instrument.

In learning how to place the element difficulties present themselves by reason of the many intricate misuses and abuses which voices have undergone. So some of us find that, in spite of concentration and persistency

with the Pee, the sound muffles. In that case place the consonant L before the element "ee." The L will force the snapping of the tongue and thus aid the "ee" to its place on the lips.

In other cases the tones with Pee may be nasal from previous habitual misplacement, then the consonant C, in combination with "ee," will force the sudden lowering of the under jaw, and thus will aid to throw the element forward. It is quite impossible to get a nasal tone with the syllable Cee. The lowering and lifting of the under jaw is simply an accessory to the enlarging of the aperture the lips desire to make, and the snapping of the tongue is simply a primitive aid to bring the vibrated breath upon the lips before we change it into tone vibration. The teeth aid the lips to cut off suddenly some of the vibrations that are to be changed into tonal forms. Practice will enable the student to transform vibrated breath into tone the moment he separates his lips, and there to hold, change and mold this tone at pleasure and will.

A difficulty that sometimes presents itself in practice is that the lips begin to form a very clouded tone, especially on the roundest forms. Some radical change is needed, and we find it in the consonant D with the element, i. e., Dee. Dee forces the lips to

spread, and immediately we get a change of tone, clear, altho much thinner, for thinness is the character of the sound Dee.

If some should have extreme difficulty in snapping the lips when they first try Pee, they must not give up trying to snap the lips, as this must be learned because of its indispensable aid in keeping the tone in its proper place on the lips. The consonant F, placed before the element, i. e., Fee, will force a snap of the lips. The upper lip should press hard against the upper teeth and down upon the lower lip, so that the surface of the lower lip is wholly covered. In this way it is impossible to make the sound without snapping the lips. The aperture at the mouth should be small. Allow the lower jaw to work naturally with the lower lip—it is unnatural to contort the lower part of the face, for it creates an unnatural and unmusical tone. The jaw must be used simply as an accessory to the movement of the lips.

Sometimes the tones get a thick, puddingy quality on a P when the Peu is used. The pronunciation of the consonant B, with the lips, will immediately produce a clearer and harder tone than with the consonant P. Care should be taken, however, not to keep to the Bee too long, for it in turn will make you produce the tones hard. Bee demands a hard snap and, consequently, a hardening of the lips.

The consonant P, combined with the element, i. e., the syllable Pee, by a long experience with thousands of voices, has proven to produce the medium between a soft and hard tone. If the tone should appeal to the ear of the student or to those who are directing him as becoming too hard (tho the student himself must build his own tone ideals) the syllable Ghee (pronounced Shjee) will be found of inestimable value. The syllable Ghee is very efficient for cultivating richness in tone.

The consonant P is not to be used with any of the rounder forms after the Peu, as it is too soft in character. After the element is placed on the lips we need no other consonant with the "u," except the Y, because the sound of "u" is begun with the element in a less rounded form. If the Yu has a tendency to become nasal or to slip back into the throat, combine it with the syllable Cee, i. e., Cee-yu. The Cee-yu should at first be used on one notation only.

The rounded forms of "o," on account of their very fullness, at first need a harder snap of the lips in order to throw them off. So instead of the consonant P we use the harder consonant B, and practice Bo. For the same reason that we use Yee instead of Pee on the scales, so we use the Y in combination with

the "o." Bo is not to be used until Yu and Yo come easily. The Yu and Yo are the element in a less rounded form than Bo. Bo will aid to give a fuller, rounder sound. If Bo does not come full and round, use Cho (pronounced Cho—not Ko). If Bo has a tendency to muffle, use Ro. In order to aid the under jaw to work naturally with the movement of the lips, use Lo. The student must judge with his ear what syllables are best adapted to aid the production of the rounded forms in their place on the outer edge of the lips. In order to give the lips a chance to limber the muscles necessary for holding the sound in place, practice the exercises a few times with the placing syllable Pee. The melodic exercises are a valuable aid whenever the production of tone becomes stiff or cramped. Concentrate closely to create the rounded forms with the same little muscles at the same aperture where the elemental form is produced.

Using with ingenuity and good sense the constantly developing discriminatory powers of his ear and his growing musical conception, the student can beautify the tones more and more, and make the muscles of the lips form every kind of tone that he desires to produce.

Timbre and Quality.

Division of the Voices.

The human voice is of different timbres in both male and female. Timbre gives that character to a voice by which we are able to classify it more nearly than by range alone. To take, for example: A soprano and a contralto may have the same range, yet when they sing the same note of a scale, say a middle C, the contralto's tone will sound several notes lower than that of the soprano's, and again, the voice of the baritone-tenor will sound lower than that of the lyric tenor. Timbre gives a lighter or heavier effect to the voice. Just as Nature stamps an individuality on every part of a person as the result of his life and thought, so she stamps on the voice an individuality expressed thru the timbre.

The voice has another possibility of expression, which we call quality. Quality, unlike timbre, is changeable to the degree that it can express the thousand different colorings of every emotion. The muscles of the lips, thru their thoro training, can give a form to the tonal wave they create that will

express a feeling of gladness, sorrow—love, anger, etc., as the emotions and mind may direct. Quality is a changeable thing—timbre is a permanent thing.

Timbre is an individual characteristic of the voice, just as the formation of the lips is an individual physical expression of character, whether crudely or more happily formed. All of us appear differently, all of us walk differently, all of us express ourselves differently, and so it is with our vocal expression. As our physical selves differ in body form, so the sound waves that we produce differ in their wave form of timbre. Just as the muscles of the lips are shaped a trifle differently in each person, so also the two sinews, by means of which we vibrate the air into greater or smaller waves, to be created into tone by the lips, are of various lengths.

We say that a person's timbre changes in that his voice sounds deeper or higher, tho at all times his voice may be recognized as a bass or tenor. This small change in the lightness or heaviness of the voice, however, is a lack of development, and only momentary, for every individual will finally discover that there is one certain timbre in which his voice is most expressive of every quality.

The difference of timbre in the comparative voices of male and female is an octave. In the

female voice we recognize, according to range and timbre, soprano, mezzo-soprano, mezzo-contralto, contralto and alto—in the male voices, tenor, baritone-tenor, baritone, basso and bass.

Altho voices are classed according to their range and timbre, and rather to their high and low timbre than range, the contralto must have low notes else we call her a mezzo-contralto. If the low notes are very weak in a female voice and the high notes fairly strong, with the tones above the G in the staff to G above middle C high-timbred and full, the voice is probably a mezzo-soprano.

In the soprano the timbre is very high and the more lyric the higher the timbre is apt to be, altho this is not always the case. A soprano will feel at home on the tones above a middle C even tho her voice may not range higher than an A flat.

The same that is true of the female is true of the male voices. The tenor and the baritone-tenor may have the same range, but the timbre of the tenor is higher than that of the baritone-tenor, and that of the baritone-tenor higher than that of the baritone—of the baritone higher than that of the basso.

Division of the Voices

(Desig. on the Piano)

A musical staff in treble clef with five measures. The notes are: G4 (Alto), F#4 (Contralto), F#4 (Mezzo-contralto), E4 (Mezzo-soprano), and D4 (Soprano). Each note is written on a separate line below the staff, with a slur connecting the lines. The notes are: G4 (Alto), F#4 (Contralto), F#4 (Mezzo-contralto), E4 (Mezzo-soprano), and D4 (Soprano).

Alto Contralto Mezzo-contralto Mezzo-soprano Soprano

A musical staff in bass clef with five measures. The notes are: G2 (Basso), F#2 (Bass), F#2 (Baritone), E2 (Baritone-tenor), and D2 (Tenor). Each note is written on a separate line below the staff, with a slur connecting the lines. The notes are: G2 (Basso), F#2 (Bass), F#2 (Baritone), E2 (Baritone-tenor), and D2 (Tenor).

Basso Bass Baritone Baritone-tenor Tenor

Baritone-tenor and tenor score usually written in treble clef.

A musical staff in treble clef with two measures. The notes are: G4 (Baritone-tenor) and D5 (Tenor). Each note is written on a separate line below the staff, with a slur connecting the lines. The notes are: G4 (Baritone-tenor) and D5 (Tenor).

Baritone-tenor Tenor

Assimilation of the Voice

By assimilation is meant the training of the voice to pass from tone to tone of the entire range without any perceptible change. By assimilating the voice from the lowest to the highest tone its greatest tonal possibilities can be unfolded, and it consequently gains that timbre thruout which expresses the individuality of the voice most clearly and forcibly.

If the voice is a lyric soprano, all the tones, the low as well as the high, should preserve the lyric timbre, for the individuality of the voice can be expressed only when the lyric character is maintained thruout all its work. In this way the low tones will not detract from the tripping coloratura and cadenzas of the upper range where, in coloratura, the lyric voice finds its natural mode of expression.

If the voice is a dramatic soprano, the dramatic timbre of the so-called "medium" range should be carried to its highest note, for it is the **dramatic** timbre which expresses its character. The terms "head," "medium" and "chest" are used simply to designate a certain part of the range. As generally understood,

these designate not alone certain sections of the range but unknowingly designate also certain timbres, of which the mis-directed beginner gives a different one on each of the so-called sections. Of course, a voice should have only one timbre thruout its entire range in which to express every quality—and, therefore, the range has really no sections. These different timbres come from wrong placement and lack of assimilation. By thus assimilating the dramatic timbre, the voice acquires the power necessary to express its individuality.

The uncertainty of unassimilated voices is seen in the lyric voice when it has cultivated tones here and there with dramatic fervor. This unnatural dramatic expression will always sound affected and be destructive of those rippling, bell-like effects that are peculiarly the property of the lyric voice.


Again, when after a few stirring tones, the dramatic soprano flies off suddenly into a thin, high voice, so destructive of its dramatic possibilities, its lack of assimilation is most keenly felt. The dramatic voice should be rich, vibrant and full of sympathy.

If the contralto peals out rich, beautiful, low tones and suddenly breaks into a different timbre on high notes so as to create almost two distinct voices, the tonal harmony of the voice is destroyed. In the contralto voice,


especially, in consequence of its deep range, this break or change of timbre is most perceptible. This break, altho not so apparent in the mezzo-contralto, is nevertheless a difficulty that must be overcome. The mezzo-contralto should assimilate the voice with the "medium" tones as models for timbre.

All female voices must use "medium voice"

from C below the staff  to C in the

clef , for it is this "medium voice" that

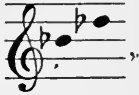
covers all perceptible breaks. If, for instance, the contralto uses what is known as "chest"

tones to an F or G in the staff , and

then breaks off into a "medium," or, in unusual cases, uses "chest" to an A or B flat

 and there breaks into the so-called

"head voice," which, however, is really neither "head" nor "medium," the "medium" tones will scarcely be heard, and the tones between

the break and the B flat or D flat ,

where the "head voice" begins, may be entirely lost, and whatever of tone there is will sound

like the voice of a child. The so-called "chest voice" in the contralto is produced easily up to


an F below middle C , and it cannot

be lost. The beginner's "chest voice" is hard, and if used pure above C below the staff



stops all flexibility of tone. When


the mellow "medium" tone is then suddenly contrasted with the beginner's hard "chest," there result two distinct voices. In order to avoid this the contralto should begin to mix the "medium" with the "chest" on a C below


the staff . Thus the hardness of the

"chest" tone gradually merges into the "me-

dium" up to an F , after which the

tones should be pure "medium." The "chest voice" should begin to tell powerfully on the

B below the C  and down to the lowest

tone. C and D  become mixed tones

in which the "chest" predominates. The mix-

ing of these timbres gives ease by virtue of the "medium," and especially in concerted work, where the need of it is most noticeable, does it give strength to the "medium" by virtue of the "chest" timbre.

Therefore, if the "chest" is used up to an F



the "medium" timbre refuses to

answer up to a middle C



but by building the lower "medium" tones, the upper "medium voice" is strengthened so that it will respond loudly. In beginning to assimilate the "medium" on the first four notes, i. e., C

to F



these may be so weak as to discourage, but practice will make them grow rich and beautiful in a short time. The mis-

take of using "chest" timbre to an F



is common even with the soprano voice. The soprano ought never to use "chest" tones. The soprano has to consider but one difficulty, which will right itself naturally if the tonal possibilities that lie in the individuality of the voice, be it lyric or dramatic, are cultivated. The difficulty comes upon F, F sharp and G above middle C.

What is true of female voices in their range is respectively true of the male voices in their range.

The greatest care and close watchfulness must be given to the practice of the exercises for assimilating the voice. The muscles of the lips cannot immediately respond at the desire of the ear to every call of the tonal imagination, for they have not yet developed the strength and, consequently, neither the dexterity with which to form tonal waves out of the vibrations they have received. Indeed, the ear cannot yet recognize the mixed tone necessary to give expression to the greatest tonal possibilities of which the individual's voice is capable. The discriminatory powers of the ear must learn to select that form of sound which to it is the most beautiful. It is this most beautiful form that the voice must assimilate thruout its entire range.

Certain forms of tone waves, such as are created in the throat or in the head cavities, will not give the muscles of the lips the exercise necessary for a gradual transition of tone from what is called by the vocal artist "chest" to what is termed "medium." There is, in reality, neither a "chest" nor a "medium register." The formation of a tone that is called "chest" is simply a matter of the formation of a sound wave by the muscles of the lips, as is

also the tone called "medium." And there is no such thing as a "head voice," because if we are going to throw the tones thru our heads we will surely change the natural form of the tone vibration and retard the formation of sound waves in many ways. To bear down, then, away from the head all vibration of breath that we wish to vocalize with our lips, is our first and most important effort. We do not wish to make tones come out of our chest, nor to make them reverberate with a hollow sound thru the chest. Nor do we strive to make tones reverberate thru the nasal cavities in order to give them a nasal quality. If there is anything unpleasant in vocal production it is the production of hollow and nasal tones. What we do call for, and what all musical instinct and cultivation demands, is a clear, bell-like tone with its silver sweetness, or a tone rich, vibrant and stirring, or a tone that sounds like the mighty waves, rolling unimpeded over one another, as comes from the pipes of the cathedral organ. In order to create such tones, free and unimpeded in their motion, the vibration that is to be converted into a tonal wave must be thrown upon the **outer edge of the lips** where the little muscular fibrillae can give it the tonal form of wave desired. Unless the tones are produced upon the outer edge of the lips, the voice will never

become assimilated to its greatest degree of expression.

There is no need to enumerate the many varieties of beautiful tones that the muscles of the lips can give to the wave formations. The very fact that the lips are able to form so many varied sound vibrations gives each person a power to express his individuality in tonal form. All of us have different tonal imaginations in so far as our varied mental processes and the individuality of our natures have been developed instinctively and thru experience. The voices, whether soprano, contralto, tenor, bass, etc., are in themselves a means of expression of individuality, but the entire range of a voice must be assimilated in order to bring out its greatest tonal possibilities. Whether the character of a voice in its expression is lyric or dramatic depends on the temperament of the individual. However, the expression of a voice, as in all things, lies in the strength of the desire with which the individual pursues his development.

There are, however, laws of the universe to which we must conform and to which our beings must to a greater or less measure be attuned. As we grow in discrimination we are stirred by certain sounds, and by others we are unaffected. Because one can create a powerful tone is no reason that he can affect others

with it. A powerful tone is not necessarily a beautiful tone, tho the development of producing a powerful tone is a necessity toward making a beautiful tone, and also a necessity in so far as it gives the strength to create beautiful tones with dexterity. The desire for development calls for physical ability. To train this strength to express the many varied forms of lighter and heavier work becomes, then, the next most important step. In assimilating the voice the student must make certain that he can produce all tones of his range with strength, and that he does not leave one part of the range weaker than the other.

In order to send a vibration that is strong enough to be transformed by the lips into a bell-like tone, the student must have acquired the ability to produce first a powerful tone. The lips must be dexterous enough to transform the vibration that is sent to their edge into a bell-like tone. In order to gain this, practice for the muscles of the lips and exercise for the power of sending vibrations to the lips is a necessary daily demand. To acquire it in a greater degree than one at present possesses depends simply upon the amount of concentrative effort and actual practice he gives to attain it.

Difficulties may arise. There are very few who are born with the instinctive knowledge of

producing tones properly even on three or four notes of a scale. There are others who have not cultivated the ability to discriminate tonal forms, altho they have studied for years. They have encountered some disastrous difficulties, one of which they were told was the change from "chest" to "medium" and another from "medium" to "head." These voices suffer for the lack of assimilation, and in the contralto, on account of her deep range, this is most apparent.

Such of the women who possess low voices may try to produce a tone upon C below the staff and then follow the scale up to an F or even to a B flat below middle C, keeping, as their ear tells them, the same wave formation of tone upon every note. They find that they produce a certain wave formation upon the A below the staff. Their ear accepts that wave formation, it being either the best tone that the lips, thru the dexterity of its muscles, can perform, or that their tonal imagination can call for. They find, perhaps, that this is the most powerful sound that they can produce of the low tone in imitation of the sound represented by some letter of our language which their ear has accepted. As they go up the scale they find suddenly somewhere between an F and B flat below middle C that they can no longer form the tone, or if they can, that a number

of tones above where this inability of producing a sound ceases, are very weak. They go higher and find suddenly that they can begin to produce sound again, i. e., they try to make a tone no matter how, and if it happens to take form it does, if it doesn't, it doesn't. If they try again they may find that their tones cease at a different note on the scale. They have taken a new way of making the tone, perhaps, they may have used a different syllable. This strikes them as peculiar and they immediately say that there must be different "voices" to the range, else this would not be so. In the use of a different syllable they have hit upon the secret path to right placement; for, as has been shown, some syllables can be produced only in the right place, i. e., on the lips. If such a syllable is used over the entire range of the voice up and down scale there will be no change.

They have never made a greater mistake than to look upon the production of tone as resulting from different "registers." The muscles of the lips, as is proven by giving them a syllable they can easily vocalize, simply lacked the dexterity necessary to change the vibration sent to them into a tonal wave. They may have used a syllable which they formed on the throat or in the head. They may have lacked the power to vibrate their

breath sufficiently in order to send the vibrations to their proper place upon the lips there to be changed and formed into beautiful tonal waves. For these reasons they excuse themselves and blame Nature for having given them such an intricate construction wherewith to produce sound. They did not stop to consider that because they could not immediately form such tonal waves as their imagination calls for, that it was not the fault of the structure, but the fault of their analysis of tone which tells them that the easiest tone to produce is the one created on the lips.

Because they could create tone in some other way, perhaps forming the tone wave somewhere in the throat or in the head, they thought that it was quite necessary to twist the throat into certain shapes in order to get tone, and neglected entirely the pliable muscles of the lips.

If we produce the sound nearest the element we will make a very sharp "ee" sound. This "ee" sound with the aid of the consonant P is at first the easiest sound that can be created on the lips. When we, therefore, bring the vibration that is to be formed into a tonal wave upon the lips with the snap of the consonant P and shut down the muscles of the lips so that they form a very sharp "ee," a tone wave will result that we can create without a

“break” on every tone step of the whole range as far up and down as we can go. Probably the very first hours’ practice will demonstrate the truth of this fact.

It is our object to train our lips and our ears for the creation of the most beautiful tones. The bell-like quality will be easiest at first for the lips to form upon notes from E on the staff to middle C for the contralto, bass and baritone, and for the soprano and tenor from G below middle C to F above middle C. For the formation of these tones the lips should be exercised and the discriminatory powers of the ear cultivated. The individuality of the voice, as it is called, is nothing more or less than the fervor which the individual himself longs to express. The muscles of our bodies will respond more or less readily to express any mood of our minds. Our muscles will answer the more dexterously and express in action the more readily and perfectly the feeling and thought we desire to express, the more training and practice we give them to strengthen their easy and free yet forceful action.

In order to form beautiful sound waves the vibrators, with which we produce the vibrations, and the muscles of the lips, with which we give the vibrations their tonal forms, need much practice. There is one thing that after all

will control completely and entirely the degree of beauty that we gain—that controlling power is the ear. If we, in the sensing of sound vibrations, lack the discriminating power of separating the beautiful or the musical from the not beautiful or unmusical, we lack that brain power, or cultivation of that brain power, which is an absolute necessity in the vocal art. The ear, then, controls and the ear, therefore, above all, must be cultivated and its power for discriminating sound must be increased. Without this the tonal imagination is nil. That formation of tone which to the ear expresses the individual longing and desire is the one to assimilate and to develop. We must take into consideration also the power of producing vibrations that are to be formed into tones. If we are able to produce big, rich tones on a few notes of the scale, we should train our lips and develop our power for producing the big vibrations which are necessary for the forming of tones from the lowest to the highest note of our range.

By this, then, may we more clearly understand what assimilation means. We learn to know, first, the size of the vibrations that we are able to produce as is shown by the tone waves formed of them; secondly, the dexterity with which the lips make use of the vibrations; third, the power of the ear to discriminate;

fourth, the feeling and thought we long to express as controlled by the directing power of the soul and mind.

We should express ourselves in that tonal form which gives us the greatest possibilities of giving out the thoughts and desires that are deepest in us and which go to build our conception of the things that make up life. If we cultivate this tone form we will train our ear and assimilate in our aural memory that degree of timbre and that quality which expresses our individual character as only a thoroughly assimilated voice can express it on every note of the scale that lies within its range.

Crescendo and Diminuendo

The crescendo and diminuendo of a tone should not be attempted until the sotto voce comes easily. The diminishing of a tone is something that is acquired gradually. It should be cultivated thruout all the exercises in the degree that the tone should be allowed to finish easily and naturally. The student will very soon appreciate this artistic idea.

In diminishing a forte tone into the mezza voce by decreasing the **intensity** so that the farthest listener can just hear clearly the full, round sound, the tone, if still further diminished, must begin to pass into the sotto voce. The **intensity** of tone and the **fullness** of tone are two different things. The life, or amplitude, of a sound wave depends on the intensity with which the sound is created. The fullness of a sound wave depends on the form. The intensity gives the sound wave power to reach the listener. The greater or less fullness of a wave form gives the wave a bigger or finer structure. A very fine spinning tone on the lips may have the same intensity that is given to a full, round sound.

These two, then, have the same intensity but differ in fullness. The fine, thin sound, however, altho it has the same intensity as a mezza voce tone, is not accepted by the ear as a mezza voce tone. For a mezza voce tone is a tone in its full, round form with an intensity just great enough to make it heard clearly by the farthest listener. In the mezza voce we have the least loud sound of the full, **round** tone—in the diminishing of the sotto voce we are constantly approaching closer and closer to the **element** of tone.

When the intensity is lessened more and more after the mezza voce tone passes into the sotto voce, it will have power only to travel a less and less distance, so that the listeners farthest away will soon no longer hear the sound. Therefore, in order to have a diminishing tone heard by the farthest listener, the intensity of the tone must be kept sufficiently strong to create a wave amplitude that will carry the sound vibration of the full, rounded tone of the mezza voce to the most distant part of the resonant space. By bringing the lips closer together, however, the artist can make his tones less full, and, hence, diminish them without diminishing the intensity, or the wave amplitude. The degree of loudness, i. e., intensity, must always be in proportion to the resonant space. By bringing the lips grad-

ually closer together, the tone can be diminished to the very last thread of its fineness. If the lips are kept open as they are for a full, round tone, the sound, after it has passed from the mezza voce into the sotto voce, with the lips still in the same open position, will no longer be audible to the listeners farther away, and finally will be lost even to those nearest the singer. The singer, when he keeps his lips open, diminishes only the **intensity** and not the **fullness** of the tone. To diminish the intensity of a forte tone into a mezza voce is well and good as long as the tone in the mezza voce can be heard by the farthest listener—but when the artist passes from the mezza voce into the sotto voce, the intensity may no longer be diminished; for if the intensity, or wave amplitude, is diminished, the tone will die out before it reaches the most distant listener. A spinning tone is a very fine tone and is made with the lips close together. In order to diminish a mezza voce tone gradually into the finest of spinning tones, the lips must be brought dexterously closer and closer—this lessens the fulness of the tone more and more until it finally reaches the last thread of its sound.

The crescendo and diminuendo should be practiced on the tones which can be created

most easily on the lips. Not until the crescendo and diminuendo can be accomplished on these notes should the student try to do the same on the higher and lower ones, else he will be apt to misplace them. A crescendo or diminuendo, or both, should be used to a greater or less degree on the same tone and surely in successive tones in the same rhythmic beat. Especially in dramatic work should this crescendo and diminuendo be felt very strongly. This must be left to the development of the artistic comprehension of the student. Crescendo and diminuendo must not be confused with vibrato. Even tho tones are expressed very dramatically with close vibrato it does not say that there may be no crescendo and diminuendo. The vibrato belongs to the **body** and **form** of the wave. The vibrato is the constant increase and decrease of amplitude or intensity in one wave — the crescendo and diminuendo is an increase and decrease in amplitude or intensity of successive waves. The crescendo and diminuendo in its greatest form passes from the finest tone to the roundest, fullest sound and back again into the fine, thread-like tone.

In the stolid work, where the notes are held a long time and are given with great intensity, the beginner will find that he can vocalize every particle of breath and increase

the duration of his tone by bringing the lips closer together as his breath gives out. Finally, of course, there is never any want for breath, for a little breath, if vocalized, makes a tone of very long duration. It is not in reality a question of breath capacity, but it is a question of vocalizing breath. There is really no control of breath, for if the syllables are produced on the lips, the breath cannot help but be vocalized.

The composer must leave to the imagination of the artist the use of the crescendo and diminuendo in the interpretation of the vocal setting. In order to properly express the emotions the singer must increase and diminish his tones, for in this he will find one of the greatest aids to interpretation and dramatic effect.

Vibrato

Among the surprises that are in store for the beginner is one that makes itself manifest very early in the training. This phenomenon, which is supposed to come only to those who have worked long and arduously, or which is accorded as a gift to the few, comes as a natural result of creating the tonal waves freely and unimpeded. Vibrato, then, is the natural result of free and unimpeded vibration, whether in the lyric or dramatic voice. Tonal waves created by the muscles of the lips have, therefore, a vibrato. By vibrato in the lyric voice is meant that the vibration of tone has an even swing, whereas in the dramatic expression the sound constantly has a tendency to become more or less intense as surplus energy is crowded into or taken away from the body of the sound wave. Vibrato is a constant crescendo and diminuendo during the life of each wave.

Portamento

Portamento should in every case be avoided, indeed, should never be used, because it destroys both the beauty of the tone you start from and the one you reach for. To slide from one tone to another gives an uncertainty of pitch. Tones should always be created separately and distinctly, no matter how finely they may be brought into the sotto voce or how legato they may be sung. Legato in all its forms is best.

Coloratura

Coloratura must be acquired by hard work. The great trouble with students in general is that they want to play with tones too soon. Before the student goes on to coloratura he must learn to do scales. But he must also work his way to the scales. Garcia says, "Those who wish to sing scales or other passages without having begun on two, three or four notes, risk failing to execute roulades." In order to acquire facility in running the scales the student must begin on one, then on two and then on five notes as given in the first three exercises of the Elementary exercise book. One of the worst things that a pupil can

do is to sing a scale with long holds, for he loses his flexibility in thinking of the holds. Flexibility gives agility. If the student's tone production is not flexible he cannot give a rapidity of tones in succession. The golden rule for the correct intonation and clean-cut production of every note of a scale is to accent the second note going up and the second note coming down. Exercises for scale practice should be followed out as given with the directions in the Intermediary exercise book. Coloratura exercises proper and directions for the same are given in the Advanced exercise book with the aid of the syllables Yee, Yu and Yo. The student should remember not to sing coloratura below *mezza voce* at first.

Imitation aids but little in the acquirement of coloratura, yet hearing it well executed will help the tonal imagination, thru the tonal memory, to build beautiful coloratura ideals.

Sotto Voce

The sotto voce is the last part of the art. Few, if any, have completely mastered it. Sotto voce work should not be attempted unless the tones can be produced upon the lips. If, instead, they are crowded into the nasal cavities, they will lack both the carrying power and the sweetness which they have when produced upon the outer edge of the lips. Worst of all, a tone forced up thru the nasal cavities will almost invariably be off pitch. This fact is unconsciously demonstrated by some of our most famous singers. The finest of sotto voce tones upon the lips has what a humming tone has not, that is, body, clearness and sweetness, and the finer its fineness the more elemental is its character. Unless a fine sotto voce tone is keenly elemental it will not reach the listener; for as all tone finds its beginning in the elemental sound, it finds there also its end.

By a forte tone is meant a tone of very great intensity. A dramatic singer, when he wishes to startle his hearers, makes a tone that re-echoes in the resonant space. In the mezza

voce the intensity of tone should be such that the tone carries distinctly to the last listener. The degrees of intensity between the forte and the mezza voce are at the artistic command of the ear. But too much of the over-intensity destroys musical contrast.

When we speak of sotto voce we must realize that it is a tone that must be heard thruout its whole existence so that not even the finest of its diminuendo is lost to any of the audience. In order to make the mezza voce distinct, it need not, nor should it have, intensity to a greater degree than is necessary to make it perfectly audible to the most distant listener. Even the narrative style, which is expressed by the mezza voce tone, may be swelled and diminished a trifle for the sake of rhythm or for artistic effect by contrast. A mezza voce tone, we see, has its minimum of intensity in the intensity that is necessary to just carry it to the other end of the resonant space. The sotto voce tone also, in order to be heard by those farthest away, must be given with the intensity that will carry it to the most distant listener. According to intensity, therefore, the mezza voce and sotto voce are apparently one and the same tone. But this is not so.

The intensity of tone is one thing and has its limitation in the farthest listener. The full-

ness, or bigness, of tone, however, is another thing and has its limitation in the finest of thread-like tones. We must consider, therefore, in the diminishing of the sotto voce, since the intensity in the sotto voce must always remain the same, the bigness of the tone. Now a full tone is created with the lips far apart. The larger the opening of the lips, the fuller should the tone be that is created by them. This is shown when we call thru megaphones, the ends of which vary in size. The same is illustrated when we fit a horn with a larger aperture to the phonograph. The sound produced is fuller. The same proves true with the production of tone on the lips. The larger the aperture made with the lips, the fuller will be the tone created.

The intensity of a tone has its limitation as soon as the listener farthest away loses the sound. A big tone, therefore, i. e., a full tone, will remain full and big as long as the lips retain the same sized aperture that they make when the tone is given either in forte or mezza voce. But a big tone may be diminished and the intensity remain to such a degree that the listener farthest away may hear it in the finest of its forms. This refining of tone in the sotto voce can be dexterously brought about by bringing the lips closer and closer together until the tone is finally but a mere thread, tho

audible in the farthest corner of the resonant space.

By holding the tone persistently forward it can be continued almost to any length without tiring, and without the least breakage, so that it makes the singer wonder from where he gets the breath. The truth of the matter is that he vocalizes every particle of breath he uses, and the amount he uses is infinitesimally small. It takes but little breath to make a round, powerful tone when the breath is properly vocalized.

A sotto voce and mezza voce tone travel with the same velocity as a loud tone. That is proven when we hear parts of an orchestra playing loudly and softly at the same time. The amplitude of every sound wave determines the intensity of the sound. We must take into consideration that with the change of amplitude, and, hence, the intensity of the sound wave, the sound will be carried to a less distance than a sound made by a wave of greater amplitude. Therefore, if we produce a loud tone and gradually diminish it, the tone will lose in carrying power as the amplitude is allowed to decrease, which, of course, will cause this tone to be heard at a less distance.

Therefore, it is not only the giving of less and less bigness to tone that we must consider, but in diminishing the tone from the mezza

voce into the sotto voce to keep, the intensity, or carrying power the same.

If we form our lips to whistle we will find that we make a very small aperture, and if we open our lips widely the sound will cease, whereas if we close our lips more and more the whistle is still produced, which, tho smaller, is quite as intense as the first bigger whistling tone. The amplitude of the sound waves has remained unchanged.

The same is true of tone waves. In order to diminish a tone and keep the intensity the same we must make this aperture for the forming of the sound waves smaller and smaller, i. e., we must bring the lips closer together. The closer the lips are brought together the more will the tone be diminished, and if the tone is diminished into its last thread, that thread of tone will be keen and very near the sound of "ee." This is absolutely true if the tone wave is formed out of the vibration thrown upon the lips. For, if the vibration is changed into sound wave in the mouth, the lips simply closed over it, the sound will be deadened and not diminished, let alone the lack of clearness, unsteadiness of pitch and lack of carrying power that ensues. It is evident that in deadening a tone the carrying power or intensity is deadened.

In the finest of diminished tones, then, we get nearest to the element of tone, i. e., we find

the sound wave that will have an amplitude which will be heard as distinctly as a big tone. Even the finest thread of a tapering sotto voce tone must have the same intensity as the first part of the sotto voce tone. Diminishing tones by simply lessening the intensity of tone is of use only within a very limited resonant space. Sotto voce tones made without intensity in a large resonant space are lost to the audience. As to how great an intensity should be given to a sotto voce tone in proportion to the size of the resonant space, must be left to the judgment of the singer's ear.

If the student practices in a large resonant space, which by far is the most preferable, he will find that in order to make his sotto voce tones reach the farthest corner, he must give them intensity to a degree in proportion to the space. He must not practice the sotto voce with so little intensity that it will not be heard at the farther end. Every resonant space should be carefully judged by the ear in order to set the minimum of intensity. A smaller resonant space demands but little intensity as compared to a large resonant space. Too much intensity in a small room cannot be appreciated by a musical ear—and the use of it shows a lack of artistic judgment. A student may find that in a small resonant space he can create a rounder, fuller wave form—

but to an artist, whose tones fall easily from their place off the lips, the difference in loudness of tone is brought about by a difference of intensity in proportion to the resonant space—in a large resonant space the tones must have necessarily greater intensity than in a small resonant space. With the artist the fullness of tone remains the same in forte and mezza voce—the intensity of tone remains the same thruout all the forms of the sotto voce, and is just equivalent to the minimum intensity of the mezza voce. The more the power of creating tone is developed, the fuller the tone that a singer can produce in proportion to the intensity of the tone.

The diminishing of a sotto voce tone is brought about by moving the lips closer together. In the finest forms of the sotto voce the lips are apparently closed to an observer. The crescendo and diminuendo of the sotto voce is made by slightly increasing and diminishing the aperture made by the lips. It must be remembered here that the least amount of intensity that may be given a sotto voce tone is the intensity necessary to make the tone just reach the most distant listener. The amount of intensity, therefore, that should be given to the interpretation of the different notes of a song is always a matter of the best artistic judgment. Before a student may begin the

practice of spinning his tones with hope of any degree of success, he must be able first to create powerful tones upon the lips. As in all things, so in the vocal art, the first requisite is power. Without tonal power, dexterity and agility for producing notes in rapid succession is impossible. Tones must be heard else they are of no use no matter how dexterously they are produced.

The syllable Pee has been found most efficient for acquiring the sotto voce. The sound at first should be made very keen in proportion to the resonant space in which the student practices. The lips should be very nearly closed. When the Pee can be rounded and held successfully without the least breakage, the syllable Yee and then the syllable Yu may be used in turn. In order to aid the sotto voce to hold its place upon the lips, swell the tone a little and diminish it as gradually two or three times on one note opening and closing the lips a trifle. If this does not aid sufficiently the student should seek to make his tones keener and sharper, i. e., give them greater intensity.

Sotto voce should first be practiced on the repetition of single notes as given in the exercises. Later, it should be intermingled with the stolid work.

A beginner is apt to find that he cannot hold his sotto voce tones a very long time. This

results because he does not vocalize the breath. If he keeps his lips closely together and produces the syllable Pee very sharply and keenly, he will soon be able to vocalize his breath more and, consequently, produce a tone of longer duration. When the breath can be vocalized and the tone can be made of long duration, the sotto voce can be diminished to a thin, thread-like fineness by simply bringing the lips closer and closer together. The best results with sotto voce can be attained when practiced at the end of the lesson. Sotto voce with all voices should be practiced at first only on the five or six notes which are the most easily produced. These tones, as a rule, lie somewhere in the middle of the range.

In the male voice the sotto voce should be the natural tone and not the falsette. The sotto voce is only a diminished form of the loud tone. In order to diminish a loud tone and yet retain its carrying power, the lips must gradually be brought closer and closer together. Since the sotto voce is simply a diminished form of the loud tone, it should, if swelled, swell easily and naturally into a powerful one, and as easily diminish again into the finest of fine sounds. If the male voice is allowed to pass into the falsette the tones will fly from their place on the lips and cause a break. By making the sotto voce keen and

elemental as it diminishes, there will follow no click nor change of voice into the falsette. Tenors, especially on account of their high range, must guard against this change, for it destroys both beauty and sweetness.

The female falsette tone is a very thin humming tone that goes up into the nasal cavities, and, indeed, some authorities contend that there is no female falsette voice. It is so weak, and the natural tone answers so clearly and distinctly that the falsette of the female voice causes no difficulty.

Trill.

The trill is the rapid alternating on two different notes of the scale. When it is correct the two notes feel to the singer almost like one tone. But in the trill the two notes must stand out separately and distinctly, yet follow each other without a break or pause. A cultivation of the tremolo, i. e., the shaking of the voice on one note should be avoided — this is the result of misplacement.

With the light voices it will be noticed that the trill comes easier as a rule. This is not hard to explain. The larger the wave form created, the harder it is to make two wave forms follow one another in quick succession. The breath is vibrated and the larynx shakes the vibrations that are thrown to the lips to be formed into tone. It is much harder for the larynx to shake a big vibration than a small one. Some may say, "Then the wave has form in the throat?" Yes, but not vocal form, or at least it should not have vocal form until the lips have given it the vocal form. The lips are the vocalizers.

The first exercise for making the trill is to

produce two tones slowly and decisively one after the other with the syllable Pee. The top note should be accented and on every repetition should feel as tho produced farther forward on the lips than the preceding tone. At first the two notes should be sung with a great deal of intensity. One note should be made to follow quickly upon the other and the speed constantly increased. But the tones must ever be kept decisive and without a tremble. As the speed increases the intensity should be moderated. We begin with intensity in order to make the two tones separate and distinct. As soon as the tones can be produced in quick succession, the consonant P of the syllable Pee must be dropped, as the P is only an aid to keep the production of tone on the lips. Beginning slowly at first with Pee-Pee-Pee-Pee and as the succession of tones comes nearer the trill, drop the consonant P and complete the exercise with the "ee." The larynx becomes so flexible that it takes up the movement of its own accord. It must be remembered that every tone should be produced on the outer edge of the lips thruout the exercises, so that when the trill becomes a reality the tones will be clear, distinct and free from all tremolo.

If the larynx at any time becomes stiff, a little increase and decrease in intensity will aid to set it in motion again and to keep the tone

on the lips. The student, too, can always return to the first part of the training and produce the two tones slowly and decisively.

The beginner must not be discouraged if, during the first week's practice, he finds the top note falling a little short of pitch. This simply shows that he does not get the upper tones of the trill far enough forward. Again, the two tones may become blurred. A little slower practice will right the difficulty almost at once. The two tones of a trill must always be distinct, separate and without tremolo. The trill must at first be practiced within the octave that is easiest in the range of the voice. Sotto voce work and trill work must be kept apart until both come easily from the lips. If the sotto voce and trill are taken up at the same time, it is wise to practice them in alternate lessons.

The crescendo and diminuendo of the trill should be attempted only after it can be made with a great degree of dexterity. By crescendo and diminuendo is not meant from the least to the loudest tone that can be produced, but such intensity as is judged by the ear to be in proportion to the resonant space. Swelling the trill and bringing it back again into the finest of sotto voce is a bit of art that can only be acquired after long and concentrated practice. The question as to how much intensity

must be given to the sotto voce of the trill again becomes a matter of best artistic judgment. It should be remembered that the minimum of intensity in large halls is very small. Many degrees of greatness or fineness of tone from the mezza voce to the last of the sotto voce can be expressed by opening or closing the lips.

Wordal Placement

The human voice, if properly trained, has possibilities for sound production that place it far beyond any mechanism for creating musical tone. The production of human tone will always remain the finest of expressions. In its form alone it speaks to its auditors thru the feeling that it conveys. Besides the human quality, however, it possesses the power to influence the intellect. In grouping sounds of different duration in a series of shadings the voice transfers the thought from one intellect to another. Every sound of the alphabet is a shading of the element of tone in a more or less rounded form—from the keenest “e” sound to the fullest, roundest sound of “o.” These groups of tone shadings which are known as words, must not only be clear and distinct in themselves but also cleanly-cut and separate in each of the groupings that is part of a word. Not only pronunciation but also articulation is necessary for effective conveyance of feeling and translation of thought.

In the decisive differentiation of each tone shading, we have articulation. But before a

student can articulate clearly he must learn to understand tone-form and how to create it. Correct and clear pronunciation in turn demands clear and distinct articulation—clear and distinct but not disjointed. The correct pronunciation of the Italian language has made many fine singers in Italy. It carries with it a correct placement of tone which comes thru the peculiar combinations of consonants and vowels and again of syllables that force the lips to do their duty in expression. When, however, we try to translate the natural fluency of the Italian to the English tongue it is found that many difficulties arise from the peculiar construction of the English words that is so different from the Italian. In the Italian the syllables are so combined that the consonants of one syllable always place the vowels of the next. This in turn habituates the correct expression so that it is never lost even when the open vowel sounds are made to follow one another.

From this example we get the idea of what will give correct placement. Certain syllables formed by a consonant and a vowel will force the lips to vocalize the breath. For as we have seen there are certain syllables that can be created only on the lips and with only a certain amount of vocalized breath. Following out the order of consonants and combining with

them the vowel sound to which the consonants first lead, and then developing the gradual shading and rounding of the vowel from its thinnest and keenest sound "ee" to the full, rounded "o," we find that the consonants lead the vowels to their true sounds. So, even when a word does not begin with a consonant, by placing before it an inaudible consonant the vowel is perforce placed upon the lips. For example, the word earth preceded by an inaudible "d" [(d) earth] will fall clearly and distinctly from the lips.

In order, therefore, to educate the ear to the true musical sound of the English language in song, we must study the combinations of consonants with the vowel sounds from the keenest to the roundest form in succession. The first syllables that we practice are the Pee, Cee and Lee as already explained. Then, the syllables Fee, Ghee, Chee and Yee. On these follow in order Yeu, Yu, Yo, Bo and Ro. The first grouping of sounds and shadings are taken up in the combinations of these syllables:

Pee-yeu, Pee-yu, Pee-yo, Pee-bo, Pee-ro.

Cee-yeu, Cee-yu, Cee-yo, Cee-bo, Cee-ro.

Fee-yeu, Fee-yu, Fee-yo, Fee-bo, Fee-ro.

Ghee-yeu, Ghee-yu, Ghee-yo, Ghee-bo, Ghee-ro.

In the practice of these combinations of different shadings the lips should be moved not

only in and out but also up and down, opening and closing, spreading and pursing to shape the sounds as the ear calls for them. In order to train the lip muscles further and habituate them to the natural response at sight of a syllable that is to be transformed into a tone, the following exercise practiced on a scale will be very beneficial:

Pee-Bee-Cee-Fee-Ghee-Yeu-Yu-Yo.

With the very first syllables we have in reality learned how to pronounce correctly the words, Pea, Bee, See, Fee, Lee, Ye, You, Bow, Row. It will also be found that all words shaded but slightly from these will place themselves upon the lips readily with but little practice. In fact words of one syllable, hereafter, will cause no difficulty for we have taken up all sound from its keenest to its roundest forms as expressed by the English language. We must then train the ear and the lips to create the combinations of shadings as they follow each other quickly in one word, and to separate these combinations from those in a successive word. In the table of combinations we have taken up the nearest elemental sound as led to its true form by the different consonants that encourage lip service, and the gradual rounding of this element in the natural order.

The ear by this time has learned to judge to

what shading of the element a new combination of consonants and vowels belongs. If such a combination presents a difficulty the judgment of the student should decide which of the placing syllables, that he has learned to produce, will aid his lips to the correct creation of the new tone shading.

In order to aid the student still further to overcome unforeseen difficulties with the rarer and more awkward combinations, the following explanation of the characteristics of the placing syllables is added. He will find that certain syllables will aid him to modify or acquire certain qualities. As to this his own ear must be his guide.

Pee.

The syllable Pee, besides being the most effective in creating the element of tone in its less rounded form upon the lips, has another characteristic that strongly influences the tone. The snap of the consonant P gives the tone neither a hard nor a too soft sound, and for that reason, as experience has proven, it is the easiest consonant to pronounce in the right place.

Lee.

The L in Lee gives a harder sound than P. Lee must be snapped forward with vigor.

Cee.

The consonant C gives the tone a softer sound than Lee.

Bee.

The consonant B acts very nearly the same as P, but it gives the tone a harder sound than the consonant P.

Fee.

The consonant F forces a forward placement by pressing the under lip under the upper teeth and pressing the upper lip down hard. Those who find it difficult to snap the P will thus find it impossible to enunciate the F without snapping it. Fee carries with it a rich quality. Its forceful snap, too, will clarify tones that have become puddingy.

Dee.

The consonant D gives the tone a thinness and proves very useful when the tones become thick. It forces the student to spread his lips at every repetition and, hence, also aids flexibility.

Chee.

When Chee is placed before a vowel or a combination of a vowel and consonant it enriches the body of a sound. Chee gives a freedom and forces the lowering of the under jaw

when it is placed before such combinations as are apt to cloud or muffle.

For the sake of analysing a word we take "pi-e-ta-(o)," used in the Advanced exercise book. In the Italian "pi" we recognize the Pee sound; in the "e" we recognize Yeu rounded more to the Yu sound; in the "ta-(o)" (the "o" is to show the full, round sound of the "a") the sound Yo with a short sound of "o" broadened which gives the Italian "a." The "o" is held after the "ta" in the exercise for the purpose of keeping the "a" forward. If the student finds difficulty in placing the "ah" sound on the lips, let him first use "teu" (the yeu sound) instead of "ta," i. e., pi-e-teu-yu. After the "teu" answers readily, use "tyu-yo." From the "tyu-yo" the sound "tyao" can be used with good results.

The "ah" sound, so commonly used in singing exercises for teaching the art of creating tone, is really the most difficult of all sound to produce upon the lips. A musical "ah" tone can only be produced after all the other tones come naturally and easily in a round, full form. It may account somewhat for the misunderstanding that has arisen about the general use of "ah" to say that there are but few who know its proper sound, and fewer who know how to create it. Suffice it to say here that the "ah" is a sound derivation of the

“o.” By this we mean the not quite rounded form of “o,” i. e., just a step beyond the “u” in its roundest, fullest form. This, of course, is a very close boundary line, but if the student keeps in mind the strength of the element of every tone and combines that ringing, silver sound with his best conception of the “ah-(o)” he will not fall far short of producing a musical tone. For a more minute analysis I refer the student to my book on “Wordal Placement.”

In order to aid to a clearer and more distinct pronunciation of words of more than one syllable it is well to remember the following rules. Whenever a short vowel is followed by a single consonant, double the consonant and pronounce one consonant with the following syllable. For example:

Forest is pronounced for-rest.

Lily is pronounced lil-ly.

Ever is pronounced ev-ver.

Never is pronounced nev-ver.

Bower is pronounced bow-wer.

If the first vowel is long, pronounce the consonant that follows with the succeeding syllable. For example:

Below is pronounced be-low.

Hero is pronounced he-ro.

Bridal is pronounced bri-dal.

Rival is pronounced ri-val.

Saviour is pronounced sa-viour.

Each syllable of a word should be given a value in proportion to its shading and duration of sound. For example, in the pronunciation of the word "society" the "ety" is short and abrupt. If the "ety" were long we would put greater value on it. But as it is not, the "so" receives as great a value as the "ciety." The entire word should be sung in an even, rythmical swing. In articulating the syllables of a word clearly and distinctly the syllables should never be disjointed, altho a heavier shading may be given to one syllable more than to the other. Every word should be a wave of rhythm in itself. It is splendid practice for wordal placement to sing words singly or in groups of two or three on melodic exercises. Where a word or combination of words in a song are especially difficult, repeating them up and down the scales will aid to make their placement easy and secure. For this there is no better practice.

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